INCORPORATING LOCAL SCHOOL DISTRICT CURRICULUM INTO NATIONAL PARK SERVICE PROGRAMMING

by

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ABSTRACT

Since the formation of the first national park in 1872 and the development of the National Park Service in 1916, people have been using the parks for a variety of educational pursuits. Programming specifically for formal K-12 school groups did not begin, however, until 1968 with the release of the National Environmental Study Area (NESA), the National Environmental Education Development (NEED), and other related programs.

These programs, though promising, failed quickly due to a lack of presidential and administrative support for the National Park Service's educational outreach efforts. In 1988 however, George Bush declared his administration to be dedicated to both environmental and education concerns. The National Park Service seized this opportunity to again develop formal educational programming. An Education Task Force was developed, and it recommended: 1) an administrative history and database of existing programs be developed to determine the status of education Servicewide, and 2) effort be made to provide formal educational programs for children that integrate NPS research with local curriculum.

This project addressed these recommendations at a Regional level with the development of a database reflecting the status of education in the Midwest Region and the development of a training manual to aid interpreters with incorporating curriculum objectives of local school districts into the park program offerings. To facilitate the development of the manual, a process outlined by a park service document Programming for School Groups: An Interpreter's Guide was implemented at three parks in the region. The process and its results were evaluated to develop recommendations to ensure the success of this latest education outreach effort.
ACKNOWLEDGEMENTS

Who knows where madness lies?
Perhaps to be too practical is madness.
To surrender dreams, this may be madness.
To seek treasure where there is only trash --
too much sanity may be madness.
But maddest of all is to see life as it is,
and not as it should be.

--Man of La Mancha

In my path leading to and through graduate school, I have benefitted from many wise teachers, friends and guides. These individuals have put the song in my heart, the will and drive in my soul, and the direction in my head.

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CHAPTER I: THE PROBLEM AND ITS SETTING

Introduction and Importance of the Study

Since the late 1800's people have been using the national parks of the United States of America for nature study, history appreciation, cultural awareness, and quiet contemplation. Education has played a large role in the objectives of the National Park Service. Now, over one hundred years later, the Service is assessing its successes and failures in the area of programming specifically designed for school groups. In charting out the future of formal school programs, it is important to have a sense of the historical role of education in the parks.

The formation of national parks in the United States began with the Yellowstone Act, signed by President Ulysses S. Grant on March 1, 1872. It stated that:

"the tract of land in the Territories of Montana and Wyoming, lying near the head-waters of the Yellowstone river...is hereby reserved and withdrawn from settlement, occupancy, or sale under the laws of the United States, and dedicated and set apart as a public park or pleasuring-ground for the benefit and enjoyment of the people...regulations shall provide for the preservation, from injury or spoilation, of all timber, mineral deposits, natural curiosities, or wonders within said park, and their retention in their natural condition." 1

In August 1916, forty-four years after the establishment of Yellowstone, Congress passed the National Park Service Act. Signed by President Woodrow Wilson, it dictated that:

"The service thus established shall promote and regulate the use of Federal areas known as national parks, monuments and reservations hereinafter specified by such means and measures as conform to the fundamental purpose of the said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the
same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." 

The legislation, though establishing the Park Service, spoke in only general terms as to how the organization was to provide for public use while protecting valuable natural resources. It remained up to the newly formed administration to develop the master plan.

Just prior to the creation of the National Park Service, R.B. Marshall, who served briefly as the superintendent of the national parks stated that the national parks were

"not designated solely for the purpose of supplying recreation grounds. The fostering of recreation purely as such is more properly the function of city, county and State parks, and there should be a clear distinction between the character of such parks and national parks....[National parks] possess an educational value that cannot be estimated."

Thus, a discussion on the role education was to play in the national parks had begun.

The first director of the Service, Stephen T. Mather had already set education as an important objective years earlier, when he was the assistant to the Secretary of the Interior for national parks. He had hired Robert Sterling Yard to handle park publicity. Yard produced a publication, The National Parks Portfolio, that professed in its introduction that "it is the destiny of the national parks, if wisely controlled, to become the public laboratories of nature study for the Nation." Mather later appointed Yard as the chief of the Service's educational division (a nonofficial capacity) following the establishment of the Service. In his annual report for 1917, director Mather declared "one of the chief functions of the national parks and monuments is to serve educational purposes."
In a letter from the Secretary of the Interior, Franklin K. Lane to Director Mather in May 1918, which constituted the Service's first administrative policy statement, Lane declared:

"The educational, as well as the recreation use of the national parks should be encouraged in every practicable way. University and high-school classes in science will find special facilities for their vacation period studies. Museums containing specimens of the wildflowers, shrubs, and trees and the mounted animals, birds, and fish native to the parks, the other exhibits of this character, will be established as authorized." 6

This interest in education was exhibited by the formation of the National Parks Education Committee in 1918 by Dr. Charles Walcott of the Smithsonian Institute. Designed to help steer the future of education in the parks, this committee consisted of about 75 members representing university and conservation organizations. The National Parks Education Committee later merged into the National Parks Association in 1919 with Robert Sterling Yard resigning from the Service to head the NPA. 7

Stephen Mather visited Fallen Leaf Lake in the Lake Tahoe region in 1919, and participated in a nature hike -- a conservation education program started by Dr. Charles Goethe which was modeled after hikes currently being run in the Swiss Alps. The men responsible for leading the Lake Tahoe program, Dr. Harold Bryant (education director of the California Fish and Game Commission) and Dr. Loye Miller (professor at the University of California at Los Angeles) were persuaded by Mather to organize and direct such a program at Yosemite. Mather strongly felt this was the direction that education should take in the National Park Service, and nature hikes were started in Yosemite National Park in 1920 with the Yosemite Free Nature Guide Service. The
program involved guided hikes, campfire talks, and lectures. After the first season, Bryant reported that, "The response has been so great that we are sure there will be sufficient demand not only to continue the work in Yosemite National Park but to extend it to other parks." The success of this concept facilitated its spread to other units.8

Also during 1920, Enos Mills began his career at Rocky Mountain National Park. He, like Mather, was familiar with the nature guide program being run in Europe and had instituted such a program at Longs Peak near Estes Park, CO in 1901. He began guiding his guests about the area, and was soon well known as a naturalist and writer. He was among the first to outline nature-guiding principles and qualifications of nature guides. He wrote that, "A nature guide is an interpreter of geology, botany, zoology and natural history."9 His involvement, both in the creation of Rocky Mountain National Park in 1915 and his leadership and advocacy of the field of nature guiding, result in Mills being considered the father of Rocky Mountain National Park and of the nature guiding movement. He is also considered by many to be the founder of the profession of interpretation.10 For Mills, though, nature guiding's role in education of school children was much stronger than envisioned by others in the National Park Service. As Mills states,

"A trail school may be had anywhere. In any nook where nature reigns she tells her story to all children brought to her and they hear her enthusiastically...The chief means of interesting children in nature is to expose them -- to bring them into contact with outdoor things. Every child has an inherent interest in the outdoors, which with a little tact may be tied up with any other interest desired -- books, a specialty, or with any and every phase of life."

"Why not each year send thousands of school children through the National Parks? Mother Nature is the teacher of teachers, these Parks the greatest of
schools and playgrounds. No other school is likely so to inspire children, so to
give them vision and fire their imagination. Surely the children ought to have
this extraordinary opportunity." 12

The Service, however, leaned away from the term "nature guide" and instead latched on
to John Muir's 1871 journal quote, as the basis for the new educational thrust:

"I'll interpret the rocks, learn the language of flood, storm and the
avalanche. I'll acquaint myself with the glaciers and wild gardens, and
get as near the heart of the world as I can." 13

As a result, replacing of the word "interpretation" for the original term "education"
evolved in the Park Service language. As William Everhart, NPS chief of interpretation
comments, this was,

"in part no doubt to avoid any suggestion that the modest appetite for
knowledge of the average visitor would be submerged in a tide of
completely accurate but exquisitely boring facts. Interpretation also
seemed a better term to describe the function of dealing with subjects
unfamiliar to most people, such as geology, biology, and botany." 14

In 1928, the Secretary of the Interior appointed a committee to study the
educational possibilities of the parks. This report issued on January 9, 1929 contained
many recommendations, including:

1. In view of the fact that the purpose of national parks is to be found in
their inspirational and educational values, there should be an advisory
body of five to seven of the ablest men conversant with national parks,
appointed by the Secretary of the Interior, on nomination by the Director
of National Parks, to serve without salary, whose duty it shall be to advise
the Director of National Parks on matters pertinent to educational policy
and developments in national parks.

2. There should be a division of education coordinate with other divisions of the
National Park Service directed by a man with the best of scientific and
educational qualifications who shall administer the educational program in the
parks. 15
As a result of these recommendations, the National Park Service Educational Advisory Board was formed and based on their subsequent suggestions, the Branch of Research and Education was established in Washington. By 1931, the Educational Committee's work was complete and it was disbanded.16

Interpretation was embraced by the National Park Service in 1952 as a result of an Area Operation recommendation relating interpretation as an offensive weapon in preventing intrusion and adverse use of areas administered by the Service. According to a memorandum circulated by the director of the National Park Service in 1953, "The interpretive program serves the two basic objectives of the Service as defined in the Act of August 15, 1916 establishing a National Park Service." 17 The Division of Interpretation was thus formed in 1953 and run from Washington.18

Freeman Tilden was commissioned in the late 1950's to assess the state of the art of interpretation in the National Park Service. The result of this project, *Interpreting Our Heritage*, is considered the foremost philosophical resource on interpretation even today.

In response to the national environmental movement of the late 1960's, and the phenomenal expansion of visitation to the National Park units, the National Park Service developed a formal Environmental Education Program which was centered in the Washington Office. Between 1968 and 1975, a series of Servicewide programs were developed. These included: the National Environmental Study Area (NESA) program; the National Environmental Education Development (NEED) curriculum; the National Environmental Education Landmark (NEEL) initiative; Students Toward Environmental Participation (STEP) movement; and curricular material developed by the Silver Burdett
Company. The development of these programs, and their success is discussed in Chapter 2.

Despite these national curriculum attempts, park employees' felt a need to learn about the types of programs and resources being used at other parks. In 1987, the Horace Albright Employee Development Fund granted money to Patti Reilly for the compilation of a servicewide directory of educational programs being offered. By 1990, the results of this survey were not complete and much of the data was out-of-date.

In 1989, the Department of the Interior began to re-evaluate its role in education. The National Park Service formed an Education Task Force which met in January of 1990. The objective was to develop a set of recommendations as to how the National Park Service could improve and increase its Servicewide Education Program. The Task Force submitted the following among its recommendations:

1. An administrative history and database of existing programs [should] be developed so that the status of education Servicewide can be determined.

2. A coordinated effort must be made to provide formal and informal education programs for children and adults through the use of existing programs, new programs, partnerships and the integration of NPS research with local curriculum.

The task force recognized that one reason many of the earlier programs had failed was because there was too much dependence on a national curriculum which was often too generic to be used in established school curriculum at the local level.

In February of 1990, the North Atlantic Region of the National Park Service sponsored a forty hour workshop, facilitated by Kathleen Tevyaw, designed to teach interpreters how to develop educational programs (those specifically designed for formal
school groups). Tevyaw's workshop and supplementary handbook, *Programming For School Groups: An Interpreter's Guide*, suggest a process for incorporating school district curriculum objectives into park programming. This workshop, handbook and process was approved by the Washington office to be implemented systemwide and a subsequent workshop was offered in January of 1991.

The handbook, however, focuses on the logistics of working with school age population, from developmental levels to pre-trip/post-trip activities. Useful as a resource to promote school involvement, it only touches on the process of incorporating school district curriculum into park programming. Since this specifically is recommended by the Task Force, the Chief of Interpretation for the Midwest Region, Warren Bielenberg, felt the need for a document that addressed this specific aspect of school programming. The document could then be used as a companion to Tevyaw's *Programming For School Groups: An Interpreter's Guide*.

**The Statement of the Problem**

The purpose of this study is to implement and evaluate the process for integrating curriculum objectives of user school districts into educational programming at parks in the Midwest Region.

**The Subproblems**

1. **The first subproblem.** The first subproblem is to update an existing database detailing previously run and existing interpretive/educational programs in the National Park System's Midwest Region.
2. **The second subproblem.** The second subproblem is to implement a process for integrating school district curriculum into educational programs existing at three Midwest Region parks.

3. **The third subproblem.** The third subproblem is to evaluate and refine the process used to integrate school district curriculum objectives into park programming.

4. **The fourth subproblem.** The fourth subproblem is to evaluate the modified programs and developed support materials at each of the three areas.

### The Delimitations

1. **The first delimitation.** This study will not develop the process for integrating school district curriculum objectives. This process has already been developed in the Park Service Handbook, *Programming for School Groups: An Interpreter's Guide* and is described further in Chapter 2.

2. **The second delimitation.** This study will not develop the method for evaluating modified programs and support materials developed. The evaluation instrument has already been developed in the Park Service Handbook, *Programming for School Groups: An Interpreter's Guide*.

### The Definitions of Terms

**Curriculum.** Curriculum determines what teachers will teach (scope), and the order in which concepts will be taught (sequence). It is an educational plan, both the embodiment of a philosophy and a statement of intentions. 21

**Educational Programs.** Activities designed for formal school groups in order to accomplish certain educational objectives.

**Evaluation.** A logical process of analyzing the nature of an educational program and of making value judgments concerning its worth. 22

**Interpretive Programs.** Educational activities which aim to reveal meanings and relationships through the use of original objects, by firsthand experience, and by illustrative media, rather than simply to communicate factual information. 23

**National Park Service.** The National Parks were created to preserve and conserve natural and cultural resources for the public trust and to interpret them for public
benefit. Each park has a particular mandate determined by enabling legislation and based on strength and type of resource. 24

Program. Participation in activities sponsored by the park specifically designed for a particular group.

Assumptions

The first assumption. The first assumption is that curriculum objectives can be integrated into park programming.

The second assumption. The second assumption is that educational programming for school groups will be more effective if it addresses school district curriculum objectives.

The third assumption. The third assumption is that school districts will use the park programs to a greater degree if their objectives are incorporated into park programming.

This road map for completing the next stage of educational outreach has been developed primarily because of failures in the past of National Park Service education programs. In order to fully understand how this project is to proceed, it is important to gain an understanding of why educational programs have failed in the past.
CHAPTER II: REVIEW OF RELATED LITERATURE

History of NPS Educational Programs

Although education was considered a component of the Park Service mandate from its inception in 1916, System-wide formal educational programs did not begin until 1968.

In the late 1960's the visitation to National Park Service units reached phenomenal proportions. Visitation had escalated from 6 million in 1942, to 33 million in 1950, to 72 million in 1960. This large increase in numbers presented the parks with many problems; trampled meadows, packed soil, and an increased crime rate. The public was literally loving the parks to death through over or inappropriate use. The Director of the National Park Service, George Hartzog, Jr. suggested that it was necessary to get to the nation’s people and raise their environmental consciousness before they arrived at the park. Thus, in 1968, riding on the wave of a nationwide focus on environmental quality, environmental education was introduced into the National Park Service.25

Director Hartzog chose the Lincoln Boyhood National Memorial as the site to unveil a new series of programs that he called "A Cooperative Program for Environmental Conservation". In a memorandum distributed on May 1, 1968, two months following his initial announcement, Hartzog stated:

"The concept of total environment includes man and all of his works. His history is in effect an outgrowth of environment at earlier periods. The natural world and man's cultural heritage join in support of the present environmental education concept."26

The programs Hartzog introduced were designed to develop integrated curriculum materials for use in the schools and establish environmental study areas within park units
where these curriculum materials were to be "developed and carried on in cooperation with existing school systems."

In a memorandum, dated May 16, 1968, describing the program to establish National Environmental Study Areas, known as NESA's, Hartzog defined an environmental study area as:

"...a land, or land and water, area whose natural, historical or non-nature characteristics are effectively combined with an organized study program to provide an understanding of the total environment and the individual's relationship to it." 27

The objectives set for NESA were: a) to introduce the student to his total cultural and natural environment, past and present, and help him realize that he is a part of it; b) to develop in the student an understanding of how man is using and misusing his resources; c) to provide an opportunity for the student to work directly with environmental problem solving; and d) to equip the student to be a responsible member of the world that he is shaping and that is shaping him. 28

With a focus on site specific programming, areas in existing parks were designated NESA's if their programs complied with the administrative definition of environmental education, later published in the 1970 Environmental Education Act:

"The term 'environmental education' means the educational process dealing with man's relationship with his natural and manmade surroundings, and includes the relation of population, pollution, resource allocation and depletion, conservation, transportation, technology, and urban and rural planning to the total human environment." 29

Proposed NESA sites were evaluated by educators and resource managers to determine if they were located close enough to schools to make their use realistic for either classes or teacher workshops, if adequate facilities existed, if sites illustrated the impact of man,
if the sites could withstand the considerable impact of regular use by classes, and if the sites possessed educational potential.

Once a NESA was established, materials and techniques were developed exclusively to take advantage of the unique potentialities of the site. In addition, national materials were provided and these included: A Teacher’s Guide, A Guide for Planning and Conducting Environmental Study Area Workshops, Environmental Education/Facility Resources (a guide to all facilities throughout the nation currently providing environmental education), The Benchmark Project (educational tools made available to monitor changing environmental quality), and The Best of NESA reports (information about programs/activities taking place at NESA’s nationwide).  

The NESA program quickly evolved to include areas off park sites. These sites also had to meet the specific criteria designated for NESA sites. Sponsors of an area submitted application forms to the National Park Service along with samples of study materials used in ongoing programs. 

The National Environmental Education Development Program, known by its acronym -- NEED, though established at the same time as NESA, did not focus on the site, but rather the materials. Designed by Dr. Mario Menesini, Research Specialist at the University of California - Davis, NEED was based on curricula theories and educational methodologies of the time. Its aim was specifically to interrelate an individual with his ecological environment while engendering a personal sense of stewardship together with appreciation of and responsibility for that environment. The program was sponsored by the National Park Foundation to generate curriculum-
integrating materials for school grades K-8 and was designed to be multidisciplinary. Its life was short lived though, with material development ceasing in 1976. A mandated program was simply not feasible. Many of the Park Service units major resources did not easily lend themselves to environmental education. Staff were untrained in environmental education and uncomfortable with the program. Those sites that were conducive to the program found it too general for their use. Though vestiges of the program still exist in current park programming, the NEED program is no longer widely used.

A third program was instituted in 1971 to accompany NEED and NESA. Known as NEEL (National Environmental Education Landmark), this was designed to give high-level government recognition to those sites already encompassed in the NESA program that were deemed nationally significant with programs of exceptional quality. The reduced momentum of NEED led ultimately to the ceasing of NESA and NEEL designations by the late 70’s.

The last major program to surface from this initial cooperative program was the STEP initiative (Students Toward Environmental Participation). Originating from the Southeast Region in 1971, the STEP program aimed at high school students. STEP strove for a kind of awareness that was not defined in specific knowledge about environmental problems, but an awareness that helped high school students learn to live in harmony with a natural world and within a human society. This awareness involved four tenets: awakening a sense of discovery, finding a sense of order, recapturing a childlike sense of wonder, and sharing a sense of place. After such an
awareness was gained, STEP led to environmental action programs. These took the form of communicating to others an environmental understanding, making a commitment to help others develop an environmental ethic, and bettering environmental quality through direct involvement and action. Students served as Volunteers in the Parks (VIP's), monitored water quality and studied issues surrounding environmental legislation. STEP evolved from a regional level and was developing into a national scale when one of the major leaders of the program, Ray Gerdes, died suddenly. Momentum for the program was lost, and, coupled with administration reorganization, led to the demise of the STEP program.

All of these programs thrust the National Park Service into a new era of education, that of outreach beyond the park boundaries. The NPS was receiving a great deal of public support for its progressive outreach policies, but such an atmosphere was not bound to last. As William Everhard pointed out in 1983,

"The Park Service was never held in higher esteem than in 1972, the 100th anniversary of Yellowstone. A presidential Commission sponsored a series of commemorative events, and representatives from eighty-three nations paid homage to the first national park when they gathered at Yellowstone for a World Conference of National Parks. The U.S. Park Service was host to the 1,200 delegates, and Director Hartzog presided over the most estimable meeting of the world park community ever held. It was the last panoply of the Park Service. Less than two months later, having earned a spot on President Richard Nixon's personal list of enemies, Hartzog was summarily fired. Since 1972 the organization has passed through the most disquieting period of history. In a stretch of nine years it has had five directors, four of whom were fired. In an agency that had never known political manipulation and had received consistently impressive and tenured leadership, the rapid turnovers have had a paralyzing effect."36
As a result of these political undertones, all outreach was canceled -- funding for educational programs being essentially eliminated.

Though generally recognized now as being too generic to be used in established school curriculum at the local level and difficult to implement at some historical and cultural sites, these national curriculums failed quickly due to the lack of administrative support and funding. By the end of the 1970's, it was apparent that new education methods were necessary. However, the federal administration in the early and mid-1980's failed to support such endeavors with appropriate funding. In fact, the entire Park Service faced further budget cuts. In many areas interpretive and educational programs were eliminated as the units struggled to keep their doors open.

A change in administration in 1988 meant a change in philosophy. Claiming himself the "Education President", President George Bush attempted to symbolize the reawakening to the needs of education throughout the nation. Bush set forth new criteria for educating the nation's youth, and Secretary of the Interior Manual Lujan targeted this special initiative of the administration in the Department of the Interior. Lujan established Excellence in Education as a key area the Department of the Interior will pursue during this administration. The National Park Service developed The Interpretive Challenge, a document that presented a strategy to address and resolve five areas of concern -- professional excellence, evaluation, education, program integration, and media. Specific goals and the actions needed to attain them were presented. It is as a result of this document that the Park Service's Education Task Force was formed and its initiatives developed.
Since the initiatives involve working with local school district curriculum, it is important to gain an understanding of the function of a curriculum, and how it can be used to meet the Task Force’s objectives.

**Curriculum Theory**

In order to understand the reason why National Park Service units are concerned with incorporating local school district curriculum, it is important to gain a general understanding of what curriculum is, and what its role is in education.

Curriculum can be defined as a plan for action, or a written document, which includes strategies for achieving desired goals or ends. It can also be thought of as an organized set of formal educational and/or training intentions or as a plan for learning [whereby] objectives determine what learning is important.

There is, however, a broader definition which states that curriculum deals with the experiences of the learner. With this approach, almost any planned activity, whether in school or outside is part of the curriculum. In essence, with this philosophy, curriculum is all the experiences children have under the guidance of teachers. The impact of this is that curriculum can involve both formal and informal processes, and can deal with cognitive, affective and psychomotor components.

Schools have a long list of curriculum objectives to accomplish with students that are set by the state and the district. Teachers often find themselves without the time, resources, and training to accomplish all of these objectives. Teachers have identified these as barriers in their ability to infuse environmental education. Though presented
in the context of environmental education, these identified barriers have implications for all aspects of curriculum. If the parks want to encourage schools to use their resources, the program must be made relevant to the schools and worth the expenditure of time and money to transport the students there.

Once programs are developed to achieve curriculum objectives, it is important that evaluation be conducted to ensure that these programs are accomplishing the goals of the user schools. This undertaking requires knowledge of evaluation methods.

**Evaluation Methods**

Evaluation is the effort to understand the functioning and effects of a program, which is a planned sequence of activities intended to achieve some goal.\(^45\) Such an effort in relation to interpretive services can be time-consuming and costly, however evaluation can serve several valuable purposes by:

1) assuring that visitor expectations are met
2) assuring that park management objectives are met
3) establishing a foundation upon which the visitor is able to build a deeper understanding and appreciation of the resource.\(^46\)

If a program or process is to be relied on to accomplish aspects of an organization's goals or mandates, it is crucial that some system be developed to determine whether or not such goals are being met.

It would follow then, that as long as a program/process is being implemented or running, there is a need for evaluation.

"Evaluation is too often thought of as the final step in any process...But it is not necessarily an end; it is more often a beginning. If the process or event...is not to be repeated or its evaluation put to use elsewhere, then
there is no reason for evaluation. In today’s world, evaluation outcomes and the means for obtaining them are (or should be) part of the initial planning process. "47

Unfortunately, evaluation is often considered merely the final step in the implementation process.48

There are two major categories of evaluation. The first is formative evaluation. This takes place during the planning and implementation stages of a project or program with the results used to modify or improve the project or program. The question asked with formative evaluation is: How can this program/project/exhibit be changed, modified, revised or improved?49 50

Formative evaluation is carried out as an integral part of the development process to test ideas for improving and modifying the project. Formative evaluation does not attempt to generalize results to a larger population, nor does it attempt to test a hypothesis. Formative evaluation simply seeks specific information about a specific project or exhibit.51

Summative evaluation is carried out after the project or program is fully implemented and the results are used to gauge the overall effectiveness with respect to the original goals.52 Summative evaluation renders judgement about a program’s worth or merit.53 The major questions asked include how successful was the program and should the program be continued, repeated or discontinued?

Those individuals considered/consulted in a formative evaluation can be either the program personnel or the potential consumers. The individuals considered/consulted in a summative evaluation are the potential consumers, visitors, etc.
Evaluation can be quantitative (statistically focused) or qualitative (descriptive narrative). A graphic overview of the common types of evaluation used in the field of interpretation is found in figure 1.54

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| QUALITATIVE                      |

Figure 1: Evaluation Methods for Interpretation from A Field Guide for Evaluating National Park Service Interpretation by Wright and Wells.

Types of evaluation employed for this project are cost effectiveness analysis, interviewing and a checklist approach to descriptive evaluation not described in the above graphic.

Cost Effectiveness

The first part of the evaluation is to assess cost effectiveness of the process. Cost effectiveness tries to determine a strategy that maximizes the desired results of a resource. It deals with the overall effectiveness of the money invested -- and compares alternatives that achieve similar outputs.55 Though it may be difficult to assign a cost to cognitive knowledge and affective gains -- these aspects can be compared through this
process. Results are measured in unit of effect rather than dollar amounts. These units include psychological or physical changes that take place as a result of participation in a particular program. The assumption is that the results are justified and useful. It also assumes that the systems have common goals or purposes, that alternative means exist for meeting goals, and that sufficient, measurable detail is available.56

Interviews

Interviews of teachers are used to assess the effectiveness of programs developed, as well as ascertain how these programs can be revised to best meet their objectives. The purpose of interviewing is to find out what is in and on someone else's mind...[it] is not to put things in someone's mind but rather to access the perspective of the person being interviewed.57 There are three methods of interviewing - the unstructured interview, the semi-structured interview, and the structured interview. The unstructured interview consists of open-ended, spontaneous questions and the train of thought is free flowing, allowing for follow-up questions as the information dictates. As a result of the lack of structure, data gathered will be different for each interview. The semi-structured interview has a predetermined schedule of questions to be discussed, but there is no order or specific wording determined for each question. The schedule serves as a guide for discussion to assure the ability to compare the information from each interview. The structured interview is a carefully worded set of questions in a rigid order. Flexibility is limited but interviewer bias is also limited. For the purposes of this project,
interviews were unstructured, to enable the staff to specifically tailor programs to individual teachers needs.

Checklists

The checklist approach directs the descriptive and subjective evaluation of a program or process. Proposed as the first part of meta-evaluation by J. Millman, the three sections utilized (see figure 2) are assessments made in the evaluation of a program or product. In a meta-evaluation, three more stages would take place in order to turn the evaluation back on itself, and treat it as a product. For the purpose of this project, only the stages used to assess the program/product were necessary. The questions were used only as a guide, a reminder of aspects to consider. Many parts of the checklist approach also contributed to the cost effectiveness assessment.

Having an understanding of the types of programs preceding this venture, principles schools operate under for student instruction, and methods of evaluation to be employed were crucial in the structuring of the research design.
I. Preconditions of the Program/Process (P/P)
   A. Need for the P/P
      1. What was needed (need for the program per se/need for anticipated program effects)?
      2. Who needed the p/p?
      3. How much (scope/depth) was needed and when?
      4. Why was the p/p needed?
      5. What is the value of the p/p even if it could do all that is hoped for it (content analysis of the worth of the p/p and importance of the needs interfaced with the above points)?
   B. Market for the P/P
      1. Who will use the p/p?
      2. How many will use the p/p?
   C. Dissemination Plan of the P/P
      1. How will the p/p reach the market?
      2. Are any implementation and delivery problems expected?

II. Effects of the P/P
   A. Indicators Used in the Evaluation
      1. What are the indicators of the intended p/p outcomes?
      2. What are the characteristics of these indicators (comprehensiveness, ability to diagnose strengths and weaknesses, validity, reliability, credibility)?
      3. Were side effects of the p/p searched for?
      4. Was the operation or process of the p/p observed?
   B. Causative Claims
      1. Do testing, selection, regression, and other factors jeopardize the validity of causal claims of effectiveness of the p/p?
   C. Generalizations of Results
      1. Were field tests under conditions in which the p/p is to be used?
      2. Are the effects of the p/p likely to last?
   D. Analysis of the Data
      1. Were p/p performance data appropriately treated?
      2. What was the magnitude of the effects of the p/p?
      3. Was there attention to both hard and soft data with respect to the p/p?

III. Utility of the P/P
   A. Cost of the P/P
      1. What were the "direct" costs of the p/p?
      2. What were the opportunity costs of the p/p (time, benefits)?
      3. Who really pays for the p/p?
   B. Benefit of the P/P
      1. Were performance and cost data of the p/p synthesized?
      2. What was the social or educational significance of the effects of the p/p?
      3. Was the value of the p/p compared to the value of the real and possible alternative p/p, recognized or not?
      4. What is the future or potential utility of the p/p?

Figure 2: Checklist Evaluation by J. Millman
CHAPTER III. METHODS OF RESEARCH

Since this project involved a number of different steps/tasks, they will be discussed individually. The tasks undertaken were: 1) development of a educational database of the Midwest Region of the NPS, 2) implementation of the curriculum incorporation process at three selected units and development of a handbook detailing the process, and 3) evaluation of the curriculum incorporation process and developed programs.

Development of the Education Database: *Education in the National Parks*

**Study Sample**

The first step was to determine the status of educational programming currently being conducted in the Midwest Region of the National Park Service. As stated previously, three park units were to be chosen for this study, based on the information received throughout the Region. A map of the units located in the Midwest Region is in Appendix A.

**Instrument Development**

In order to determine the sites to be used for the study, it was necessary to know the resources (natural, material, personnel, etc.) available as well as what programming was currently being done. Sites with a large interpretive staff would be able to implement this process themselves and sites with no educational programming will be
unprepared to do this process. Thus, an assessment needed to be made as to the status of educational programs at all of the units in the Midwest Region.

After searching documents housed in the Midwest Regional office for information, it was determined that a survey would be needed to obtain missing information. Although a similar instrument had been used in 1987 by Patti Reilly for an Albright Staff Development Grant, that instrument did not obtain all the information needed for this study. In addition, the information gathered was already out-dated and response rate for Reilly’s survey had been low, especially in the Midwest Region. Therefore an appropriate survey instrument needed to be developed.

Following an extensive search of the administrative materials available through other documents submitted by the individual units to the Regional office, a list of information necessary for the study was generated. In addition, further information not crucial for the study, but needed by the Regional Office was included. Survey questions from Reilly’s survey and other similar surveys were gathered along with questions specifically written for this instrument. After extensive internal revisions, the instrument was sent to several park interpreters to critique. Major revisions were made as a result of the feedback, and it was again sent out to the interpreters. Following minor revision, the instrument was type-set and sent out to all of the Midwest Region units. By June 1991, information had been received from all 34 units -- yielding a 100% response rate. A copy of the survey instrument is in Appendix B.

The survey results were compiled into a comprehensive database detailing the status of educational programs in the Midwest Region. Further discussion of the results
is found in Chapter 4. The entire database, entitled *Education in the National Parks: What Are We Doing in the Midwest Region?* is found in Appendix C. From these results and with consultation of the National Park Service's Regional Chief of Interpretation, three sites were chosen to implement the curriculum incorporation process. The three park units identified were: Harry S Truman National Historic Site, St. Croix National Scenic Riverway, and Pictured Rocks National Lakeshore. These units were selected based on the following criteria: sufficient staffing to make expanding of educational programming feasible, staff interest in working on the educational program, diversity of park objectives (making these three sites somewhat representative of all units in the Region), adequate market of school districts currently not being served. A breakdown of this information is found in figure 3. Information gathered on all units is found in *Education in the National Parks: What Are We Doing in the Midwest Region?*, Appendix C.

**Implementation of Curriculum Incorporation Process and Development of ACT: A Process for Bringing Schools to our National Parks**

**Design for Implementation**

The process for curriculum incorporation was outlined in the 1990 handbook, *Programming For School Groups: An Interpreters Guide*. A copy of this outline is in Appendix D. Since the purpose of this project was to create a document that leads interpreters through an organized process, interpreters of the site were used to complete the identified steps.
Step One: Assessing the Sites Themes, Mandates, Management Goals

The first step involved assessing the sites themes, mandates, management goals and resources. Extensive background information was collected prior to arriving on site so that the researcher would be familiar with the particulars of the unit. One to two days were then spent interviewing the interpretive staff to determine the range of programming options, as well as their personal objectives for the project. Resource availability and visitor demands were discussed to provide the curriculum incorporation team with an understanding of the breadth of possibilities for programming, as well as acknowledgement of any logistical constraints.

Harry S Truman National Historic Site

Primary theme is historical -- President Truman
Limited programming, both off- and on-site.
No evaluation process.
Serve two states, four counties, and four primary school districts.
"An entire new program is greatly needed to be developed at our site"

St. Croix National Scenic Riverway

Primary themes are ecological, recreational and historical.
Limited programming, primarily off-site.
No evaluation process.
Serve two states, at least 4 counties, and numerous school districts.
"Engaging in the curriculum incorporation process this summer"

Pictured Rocks National Lakeshore

Primary themes are ecological, cultural and historical.
Limited programming, both off- and on-site.
Evaluation process in place.
Serve one state, three counties, and four school districts.
"We hope to serve far greater numbers of students in primarily 4-6 grade levels."
Step Two: Curriculum Review

Copies of pertinent state (if any) and local school district curricula were then obtained through discussions with the state departments of public instruction and representative school board offices. The curriculum incorporation team (comprised of the interpretive staff and the researcher) reviewed the curriculum objectives of all grade levels/subject areas for the districts/state and identified those that directly pertained to programming options available on-site. A list of these objectives were provided to all team members (such lists can be found in *Curriculum Incorporation in the National Parks: The ACT System*, Appendix E).

From these curriculum objectives, the team brainstormed possible programs that would achieve the park's goals and best achieve the array of education objectives found in the curriculum. The goal was to merge as many objectives as possible -- with the intent of designing one program for a specific age level. Interpreters at the sites would then continue the process on their own to encompass more grade levels and program themes.

Step Three: Talk With Teachers

At each site, area teachers/school administrators were assembled to help review the proposed programs. Panels were assembled including both teachers currently using the park resource as well as those whose classes had never visited the site. For Harry S Truman National Historic Site, 9 teachers who had brought third, fourth, or fifth grade students (the target age was fourth) out to the site were contacted by telephone for an
informal interview. In addition, 3 teachers identified by other Truman historic sites in the area as active teachers, were contacted via phone to critique the program. Subtle changes were made to the developed program, and three teachers were asked to meet with the team to review the final program (one of which was unable to attend on the day of the meeting). For St. Croix National Scenic Riverway, 3 fourth grade teachers of the Grantsburg Schools were asked to review the program, along with the school principal. Since none of the elementary schools in the targeted area had ever used the Riverway, the panel was made up solely of teachers who had never visited the site. For Pictured Rocks National Lakeshore, four teachers of grades 1-6 were initially contacted -- two of whom had visited the site, two of whom had not. Once the programs were fully developed, teachers of each grade level 1-6 for each of two school districts were used to assess the programs. Of the 12 teachers questioned, only 3 had brought classes out to the site.

Following this teacher review, the programs were implemented. Unforeseen staffing constraints at all the three sites contributed to the programs not being offered widely.

**ACT: A Process For Bringing Schools to our National Parks**

The final phase of this project was the development of a descriptive account of curriculum incorporation at three area units that aids interpreters at other sites to implement the process. This account details pitfalls and stumbling blocks of the process and suggests methods to alleviate these problems. It also provides evidence of the
usefulness of this program for interpreters and visitors. Further discussion of the handbook, *Curriculum Incorporation in the National Parks: The ACT System*, is found in Chapter 5. The complete version of this handbook is in Appendix E.

**Evaluation of the Curriculum Incorporation Process and Programs Developed**

A descriptive and subjective formative evaluation of the process was made following a checklist approach based on the first three steps of meta-evaluation (discussed in chapter 2). Summative evaluation, including an evaluation of cost effectiveness, was based on formative evaluation information and the evaluation of the developed programs and materials. An evaluation instrument developed previously by the Park Service was used as a model. A copy of this may be found in Appendix G. Further discussion on evaluation of the process and programs is found in Chapter 4 and the completed checklist evaluations for each site may be found in Appendix F.
CHAPTER IV: RESULTS OF DATABASE, MANUAL, AND EVALUATION

The steps toward the completion of this project were to 1) create a detailed database detailing the status of formal educational programming in the Midwest Region of the NPS, 2) implement the process for incorporating local school district curriculum into NPS programming and develop an instruction manual to be used as a resource on the process, and 3) to evaluate and refine the curriculum incorporation process as well as the programs developed through that process. In order to understand the implications of this study, each objective must be addressed individually.

The Education Database: *Education in the National Parks: An Interpreters Guide*

There were several objectives for the educational programming database. These were determined based on directives received from Washington as well as needs expressed by park units. The objectives include:

1. To achieve the Education Task Force recommendation, specifically for the Midwest Region.

2. To create a document that would serve as an aid in determining which park units should be chosen for the curriculum incorporation project.

3. To create a document that would be useful in networking and program development to interpreters at all park units.

In order to achieve these objectives, a survey was developed to supplement information already supplied to the Regional Office through documents such as each unit’s Statement for Interpretation and its annual Interpretive Program Report: form 10-769. This survey was devised to be simple and short for the interpretive staff to fill out. It was separated
into six sections, each focusing on a different aspect of the formal educational picture: General Information (contact names/addresses/phone numbers), Programming (what educational programs currently are being run?), Evaluation (was an evaluation procedure in place?), Training (staff background and training needs?), Demographics (statistics of students and where they’re from), and Final Comments (recent achievements and anticipated changes). A copy of the survey instrument is found in Appendix B.

The survey enabled the Regional Office to obtain a clear picture as to the current level of educational programming. From the results, the Chief of Interpretation has information regarding target audiences, program subjects, and the popularity of these programs for each park unit. He is also able to assess the staff’s ability to handle more school groups, and the communities ability to supply more groups. Therefore, the survey accomplished the Task Force’s recommendation.

The developed database provided baseline information for the selection of the test parks. The information deemed useful in unit selection (i.e. interpretive staffing, staff interest, park educational objectives, and total market of school groups) was easily obtained and enabled park units to be contrasted. Many units were eliminated for not meeting these criteria -- and the three selected were chosen because of their "best fit".

The information in the database was presented in three separate sections. The first section provides an overview analysis of what is being done throughout the region, as well as commenting on the training needs perceived at all units. The second section

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1 Formal educational programs are defined as an educational service that conveys environmental/ecological/historical principles as its main theme even though it uses park resources as illustrations in the course of instruction. It may be presented off- or on-site and is primarily offered to school groups or other education assemblies (as stated in NPS-6: Appendix A, attachment #1, page 4).
presents all the information for each park in a comprehensive 2-3 pages per park. The final section consists of examples of evaluation instruments in use throughout the region. This was included because a great majority of parks lack a process for evaluating their program offerings.

In addition to the information provided in the database, each unit was requested to send copies of any educational materials they have developed and use. These resources are on file in the Regional Office library to serve as a supplement to the data provided in the database.

The database was complete in August of 1991 and was reproduced by the Midwest Regional Office. As a result of the information collected, the selection of test parks was made in late May 1991, and the curriculum incorporation process was begun at these sites during the next three months.

The final document, *Education in the National Parks: What Are We Doing in the Midwest Region?*, was provided to each unit in the Region as well as each Regional Office in the System. Response from the interpretive staff at park units has been positive, but no assessment has been made as to its usefulness in networking. Although quantifiable analysis is not available, the feeling among Regional staff members is that the document will prove to be a useful resource to interpreters.

In December of 1991, every Regional Office was asked to provide updated information for the Reilly survey in an attempt to satisfy the Education Task Force's Recommendations. As a result of *Education in the National Parks: What Are We Doing
In the Midwest Region?, the central office in Washington was supplied with nearly all the information requested as well as more breadth of data.

The Curriculum Incorporation Manual: ACT: A Process For Bringing Schools to our National Parks

There were several objectives for the handbook detailing the curriculum incorporation process. The handbook stemmed from the need to further explain the process of curriculum incorporation to the interpreters who would be responsible for undertaking the process. It was evident that System-wide training programs were unsuccessful at training large numbers of interpreters in short order. The objectives for the handbook therefore include:

1. To achieve the Education Task Force recommendation that a coordinated effort be made to provide formal education programs for children that would integrate NPS research with local curriculum, specifically for the Midwest Region.

2. To create a document that would serve as an aid in illustrating the process, and ways to accomplish the process at diverse units.

3. To develop a document that would supplement the valuable information found in Programming for School Groups: An Interpreters Guide.

In order to develop the handbook, the curriculum incorporation methods outlined in Programming For School Groups: An Interpreters Guide had to be followed. The details of the implementation of the curriculum incorporation method at each of the three test parks are reported in the handbook. Through the merging of park resources at three park sites with the local curriculum of the area school districts of the three test parks,
the Task Force’s recommendation (as stated above) was addressed. Further use of this document will further achieve the recommendations for the entire Midwest Region.

The handbook begins with a brief history of education in the National Park Service, discussing past failures to emphasize the current procedure. The curriculum incorporation process is then introduced. Each step is explained thoroughly, with examples from each of the test parks to illustrate the points. Program materials developed at each site are also included. The handbook concludes with a brief evaluation of the process as determined by this study. Through this format, a document was created to illustrate the process of curriculum incorporation at three diverse units. The sample layout for the handbook can be seen in Appendix E.

Designed to be a companion to Programming for School Groups: An Interpreters Guide, the handbook emphasizes the points developed by Kathleen Tevyaw et. al., as well as recommending the document for background information. In this way, the handbook is designed to complement the efforts previously made by Programming for School Groups: An Interpreters Guide.

The handbook is being reviewed by the Midwest Regional Office at the time of this printing. Anticipated publication is set for Fall 1992.

Evaluation of the Curriculum Incorporation Process

Three forms of evaluation were used for this project.

1. Checklist evaluation prior to, during and following completion.
2. Staff evaluations of the process and programs.
3. Teacher evaluations of programs.

35
Each site's evaluations (found in Appendix F) are in the checklist format introduced in chapter 2 and abbreviated in Figure 4. Information gathered from staff feedback and teacher evaluations have been inserted into the checklist outline where appropriate.

Harry S. Truman National Historic Site

General Site Information: Harry S Truman National Historic Site

At Harry S Truman National Historic Site the program package was developed by the researcher, the Chief of Interpretation, and three permanent interpreters. Facilities were limited, with the only major structures being the Truman home, three neighboring buildings, and associated outbuildings. Of these, only the Truman home was available for public visitation. Since one of the mandates of this Historic Site is the preservation of the Home and its furnishings, visitors have restricted access to the Home. The park operates the visitor center, bookstore and office space in a building leased from the City of Independence, MO.

Checklist Evaluation

The Truman Home is surrounded by and borders a major metropolitan area. The number of school districts that could easily visit the site is great, indicating a sufficient market for the process. In addition, all fourth grade students are required by the State of Missouri Core Competencies to study historic Missouri leaders -- including President Truman. Therefore, the need is there for services directed at the elementary school population.
School groups that visit the Truman Home often fail to understand the reason for the restricted mobility, and thus, the children’s behavior has been a problem for the staff. Behavior was determined to be an indicator of process success, along with increased visitation and use by school populations.

A total of 42 staff hours were devoted to the development of a program package. This package was developed by Fall 1991, however the transfer of the Chief of Interpretation to another park unit led to a lack of staffing from October to March, 1992. This resulted in the park operating below minimum staffing levels. With such a lack of staff support, it was impossible to begin offering the developed program package until March, when staff was again at normal levels. Therefore, definitive information on cost versus benefit is impossible to derive. Detailed information on the evaluation can be found in Appendix F.

Staff Evaluation

The programs were presented three times with a favorable response each time. Interpreters did report noticing an increase in positive behavior from the students, and the number of requests for programs has increased. However, such a limited sample makes conclusive results impossible. Each staff member, however, felt pleased with the programs developed, and anticipate using the curriculum incorporation process again in the near future.
Teacher Evaluations

Response from the programs has been overwhelmingly positive. Examples of the feedback include:

"The type of information given was wonderful. The park rangers exhibited enthusiasm and welcomed students questions and comments. I used all the materials provided. We acted out parts using role playing. The crossword was used as an enrichment activity and as it reviewed so much they had learned. My class thoroughly enjoyed our unit on Harry Truman. The field trip was a great culminating activity. The reinforcing of concepts presented will enable students to remember! The class seemed to develop a sense of pride in our state, county, and helped them identify with a time gone by, but a man for all time!"

St. Croix National Scenic Riverway

General Site Information: St. Croix National Scenic Riverway

At St. Croix National Scenic Riverway, the park encompasses two states and touch 8-12 school districts. Four visitor information stations are located along the river corridor. Interpretive staff are stationed at each of the three river districts the park is divided into. Little school programming had been done prior to utilizing the process.

Checklist Evaluation

Located near a major metropolitan area (Minneapolis/St. Paul) and encompassing many rural school districts, the market for school programming was evident. Since water issues are important to both Minnesota and Wisconsin, and river history is a basic component of elementary history, the need for a variety of programs from river ecology to river history was also apparent. Since no programming was currently being done,
increased visitation and greater stewardship of the resource were determined to be indicators of successful completion of the process. Cost included 38 staff hours for the development of the program. Considering the success of the program, and the greater interaction between the park staff and the school community, evidence seems to indicate a net benefit from the process.

Staff Evaluations

The staff worked with the Grantsburg, WI schools to develop a programming package on river ecology entitled, *The Rivers Are Alive*. This program was offered three times during the fall of 1991.

Although the program was only implemented a handful of times, it appears that the process has been successful. The interpreters at the Riverway feel they have been effective in reaching out to schools. In fact, since the implementation of the program, the staff have received many more requests for interpretive programs at the school sites than ever before. The staff believe that a network is being developed that will enable the schools and parks alike to best meet the students needs.

The staff had scheduled to follow the process and develop a logging history program during the 1991-92 winter. However, an injury of one of the principle team members has delayed this development until the fall of 1992. It is anticipated that this process will be used initially to develop four programs total, one available for each season. It is clear from the staff reaction and eagerness to develop more programs, that
the curriculum incorporation process is deemed a success at the St. Croix National Scenic Riverway.

Teacher Evaluations

Teacher response to the *Rivers Are Alive* program was favorable, with the teachers being pleased with the activities, the involvement of the children, and their accomplishment of educational objectives. From the debriefing, the only adjustment made to the program was in the length -- enabling the children to stay longer on the river. The program is set to be run for two other school districts in late May, 1992. Comments included: "Our students enjoyed this program. We received positive comments from parents and teachers." and "My evaluation is high because this program worked!!".

**Pictured Rocks National Lakeshore**

**General Site Information: Pictured Rocks National Lakeshore**

Pictured Rocks National Lakeshore is located in Munising, Michigan on the banks of Lake Superior. Generally surrounded by rural school districts, its main visitation is from summer tourists. The interpretive staff is small, and facilities are limited.

**Checklist Evaluation, Staff Evaluation, Teacher Evaluation**

Little data is available at Pictured Rocks National Lakeshore. Three programs were developed, on the same topic, each for a different grade designation. Although the
development stage of the process went favorably, due to staffing constraints and lack of commitment to the programs, the developed program packages were not offered during fall and spring of 1991-92. As a result, it is impossible to evaluate the process’s success or failure at Pictured Rocks.

**CONCLUSION**

From the data available, the evaluation of the process has been favorable. Costs of the process involved staff time, ranging from 38 hours at St. Croix National Scenic Riverway to 53 hours at Pictured Rocks National Lakeshore. The time invested averaged at one week (40 hours) per site. Especially if more than one staff member is participating in the process, such time commitment is easily allocated. It is also apparent from the data available from Pictured Rocks, that if the focus of the programs are the same, it can be more cost effective to work on several programs for different grades simultaneously (three programs were developed at an average of 18 hours/program). This can probably be attributed to the fact that curriculum research and activity search time overlap greatly.

The two products of this project, *Education in the National Parks: What Are We Doing in the Midwest Region?* and *ACT: A Process For Bringing Schools To Our National Parks* are intended for distribution throughout the NPS System. Both are scheduled for distribution in the summer of 1992. Review of these products by a panel of interpreters indicate that these will be useful resources.
It is important to note that review of a written document cannot compare to evaluating the actual use of the process. A system must be developed by the National Park Service to evaluate the effectiveness of these documents once they begin to be used by park interpreters. Establishment of a training program in conjunction with *ACT: A Process For Bringing Schools To Our National Parks* would promote the use of the document along with providing a list of interpreters who had used the manual and could be asked to evaluate its effectiveness. An annual training program is currently being offered to provide support for *Programming For School Groups: An Interpreters’ Guide*. The possibility exists to tie these two documents and training programs together.

It should also be recognized that the implementation of the curriculum incorporation process will likely be different than those presented in the manual. Factors involved in this relate to the bias introduced by the researcher at the three test parks. At each of these units, the researcher completed approximately one half of the process and the site interpreters completing the remainder. Also, the researcher was well versed in the process, had a great understanding of the components involved, and had access to resources available at the Regional Office. Although the time investment is accurate in staff hours, it is probable that individuals less familiar with the process will take more time to accomplish each of the steps. All of these factors support the need for further evaluation of these materials in the future, to provide conclusive evidence of their effectiveness and suggest ways to improve their usefulness.

Evidence to date, though limited, indicate a successful use of the curriculum incorporation process. Interviews with the staff at Harry S Truman National Historic
Site indicate that students who are exposed to the developed programs have a higher degree of focus during the tour of the Truman House, and that the behavior problem has been reduced. They are interested in using the process to develop a program for high school students once staffing has improved. Similarly, at St. Croix National Scenic Riverway, the staff are pleased with the Rivers Are Alive program and have released it to all of the interpreters on the riverway for dissemination. They have already begun work on a logging history program, and plan to work through the process in the fall of 1992. Teacher evaluations have been favorable at both sites, thus indicating a success in the process itself.

The only identified flaw is not in the curriculum incorporation process, but rather in the evaluation. In each instance, the implementation of the programs has been impaired by some constraint. Although no unit could be expected to have perfect staffing levels, the fact that each unit incurred problems indicates that staffing ability and staff commitment to the process is much more crucial than previously assumed. Unless an accurate assessment is made on staff availability and park administrative support for the project, the process cannot be effective. As was the case at all three parks, the dissemination of the developed programs was impaired, or in the case of Pictured Rocks National Lakeshore, curtailed by the lack of staff and commitment to the project. Such a lag in the release of developed programs can only lead to dissatisfaction by the educators involved in the process, as their time will have been wasted. Although it is not perceived that any damage has been done as yet by the lack of implementation, if the units fail to move on the programs during the next academic year, it may become
detrimental to the educational program as a whole. It is better to not undertake the process at all, then to risk projecting the impression that the educational program is not a priority for the park.
CHAPTER V: CONCLUSIONS

THE PAST, PRESENT AND FUTURE OF FORMAL EDUCATION IN THE NPS

The Past Attempts

Since the formation of Yellowstone National Park in 1872, people have been using the United States' national parks for nature study, history appreciation, cultural awareness, and quiet contemplation. The Park Service's interest and implementation of education outreach programs to schools has fluctuated greatly since its inception in 1916.

Although education was considered a component of the Park Service mandate, Systemwide formal educational programs did not begin until 1968. In 1968, the National Environmental Study Area (NESA), the National Environmental Education Development (NEED), the National Environmental Education Landmark (NEEL), and Students Towards Environmental Participation (STEP) were released. With these programs the Park Service had immersed itself in programming specifically designed for K-12 school students. All of these programs had a national focus, and involved outreach activities from the parks to the schools. NESA designated environmental study areas both within and outside park boundaries for use by local schools. Site specific curriculum was developed to be utilized by the teachers, with park interpreters functioning merely as a resource. NEED was developed as a national environmental education curriculum resource for the parks. NEED activities were mandated to be implemented by every park in the System. NEEL operated as a legislative designation for outstanding NESA programs. STEP was designed to be a program for high school students, leading them from an awareness of the environment to developing the skill and ability to take positive
action for the environment. As a national curriculum, NEED encountered problems in its implementation due to its generic content and the inappropriateness of the subject matter for many cultural and historical sites. A change of political climate in the mid 70's cut the support of the executive branch. By the late 70's these programs had largely failed, and there was little interest in the development of new programs.

The Present Efforts

In 1988, George Bush was elected President and declared his administration to be dedicated to the environment and to education. The National Park Service seized this new mandate and in 1989 created the Education Task Force to develop recommendations to improve and increase its Servicewide Education Program. The Task Force recommended that 1) an administrative history and database of existing programs be developed so that the status of education Servicewide could be determined, and 2) a coordinated effort be made to provide formal programs for children through the use of existing programs, new programs, partnerships and the integration of NPS research with local curriculum.

Concurrent with the Task Force's recommendations, the North Atlantic Region of the NPS sponsored a workshop designed to teach interpreters how to develop educational programs specifically designed for formal school groups. This workshop was designed and facilitated by one of the Task Force members, Kathleen Tevyaw. In conjunction with this workshop, the handbook Programming For School Groups: An Interpreters Guide was developed. Focusing on the entire process of providing school
programs, the handbook merely touched on the development of programs that are curriculum based.

The Midwest Region implemented a project to further the design of and training in formal education programming. The status of education programs in the region was assessed and reported in *Education in the National Parks: What Are We Doing in the Midwest Region?*. Three parks were then chosen to work through the curriculum incorporation process, and a manual, *ACT: A Process For Bringing Schools to Our National Parks*, was developed detailing the process.

Based on the experience in the Midwest Region in implementing an education outreach program, it is important to recognize future challenges facing the National Park Service and to consider recommendations which would ensure the success of this initiative where others have failed.

**The Future Implications**

The future thrust of educational programming in the national parks is one tailored to individual school district needs, rather than a broad curriculum throughout the nation. Programming is also to be specific to the cultural and natural resources of the site. This new approach, however, has several implications for the National Park Service. This approach places large demands on human, monetary, and natural resources. In order for the National Park Service to ensure the success of this new philosophy in programming, the administrators of the NPS, the Congress and presidential administrations, and the general public must be committed to this future.
The National Park Service's Education Task Force addressed two important concerns in their recommendations of 1989. These recommendations placed importance on formal educational programs and outreach, an area with little or no priority in the ten prior years. This effort was to provide educational programs that integrated the NPS resources and research with local curriculum of the schools. From these recommendations, it is obvious that a lofty goal has been set. How equipped is the National Park Service to achieve this goal?

From the questionnaire, *Education in the National Parks: What Are We Doing in the Midwest Region?*, current training needs at each park unit were assessed. The results (found in Appendix C) show five areas in which the parks, overall, felt need for training. These areas include learning theory, teaching methods, evaluation procedures, development of support materials, and curriculum development. The areas of need were those which are particular to serving formal school populations. Other suggested training topics were not rated highly, probably because those areas (urban populations, program development, etc.) were at least partially addressed in other Park Service Training programs. It is clear from the findings, that park staff feel less confident in dealing with a formal school clientele than with the general interpretive audience. This was the case at each of the three parks involved in this study, as each indicated a need for Regional help to guide their program development. Since formal educational programming was identified as a priority by the Education Task Force, strategies must be developed to address the training needs of the staff related to these goals. Outreach is very labor intensive, and as client demand grows, the stress on an already tight staffing schedule can
be difficult. Administrative support is needed to alleviate staffing constraints at park units. Currently park staff throughout the nation are stretched to the limit for their ability to accomplish the diverse tasks required of them and successfully deal with growing public use. Information obtained from 275 park divisions of interpretation for the period from 1980 to 1990 illustrate the problem.

* The average park interpretive operations budget increased 17% per park reporting; GNP inflation for the same period increased 53%.

* The average number of park visitors increased 36% per park reporting.

* The average park interpretive FTE allotment for permanent employees decreased 17% per park reporting. The average park interpretive FTE for temporary (seasonal) employees decreased 29% per park reporting.

* 62% of the parks reported that their interpretive operation is presently operating below the minimum level of services as defined in NPS-62; 27% reported they are operating at minimum levels; and 11% were unable to answer. The 62% parks reporting that they are not meeting their minimum interpretive responsibilities at the present time include almost all large parks within the System. Those parks which report they are meeting their minimum responsibilities are almost entirely small parks with small visitation.

Although park visitation has increased tremendously over the past ten years, the last major infusion of interpretive personnel into the Service was during the height of the Bicentennial celebration in 1975-1977. Most interpretive supervisors report that quality of interpretive services suffers most due to insufficient staffing and lack of time for employees to be trained, audited and critiqued, and to prepare their interpretive programs.59

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2 "The first priority of a park's interpretive program must be to provide the park's identified minimum interpretive operation. All other services, however desirable, are secondary."
Each of the three parks selected for this study were operating with limited staffing. At Harry S Truman National Historic Site, staffing demands made it impossible for all permanent staff of the interpretive team to meet during business hours. Each park’s lack of staffing, either due to position vacancy or illness, led to the developed programs being offered infrequently or not at all. Since these parks were selected because of their perceived ability to handle school program demands with existing staffing, this overall failure further indicates the dramatic need of increased staffing system-wide.

Better funding of our national parks, therefore, is a pressing need. The Task Force’s education initiative creates an even greater work load for the park interpretive staff. This will necessitate increased staffing nation-wide, redirecting non-interpretive staff positions to provide support for educational programming and increasing funding to support outreach efforts. This individualized programming cannot be successful unless each successive administration remains committed to this task.

A five-year plan for upgrading interpretive operations is currently being considered. This plan calls for an increase in the interpretive seasonal workforce of 100% and the interpretive permanent workforce of 25%. Also included in the recommendation is additional positions and funding specifically to support the Educational/Outreach Program. This plan is already being implemented, with the NPS Fiscal Year 1993 Budget Justifications showing increases for seasonal personnel at $8.0 million and education/outreach at $3.0 million. If passed, these increases could begin the process of rejuvenating the interpretive program of the NPS. Again though, it will
be necessary for successive administrations to "stay the course" of this revitalization plan to enable interpretive divisions to function at or above minimum limits.\textsuperscript{60}

In addition, greater visitation from schools will create the need for more intensive management of park resources to prevent overuse of the natural resource base. It is likely that visitation will need to be limited or directed to less sensitive areas. Interpretive staff and resource management staff must work together to protect the parks from overuse.

The evaluation of the curriculum incorporation process at the three park sites illustrate many of the problems mentioned above. Since it is likely that this method of curriculum incorporation will be the one utilized by the parks, it is necessary to revise the process somewhat based on the data collected. Parks will need to ensure enough "flex time" in the staffing schedule to allow proper preparation and implementation of the process. This not only includes the 40+ hours determined necessary for the development of the programs, but also time allotted for the implementation of the programs (i.e. gathering of materials, scheduling classroom groups, evaluation and revision). Parks with well established education programs understand the need for this flex time and have a more realistic understanding of its scope than those parks with relatively undeveloped formal education programming. For this reason, any undertaking of this process should be accompanied with a plan for the allocation of interpretive staff time appropriate to develop, pilot, and evaluate, and offer each program throughout the academic year.
Recommendations

In order to begin to address the Task Force’s recommendations, and ensure greater success of this approach than previous environmental education initiatives, it is suggested that the Park Service:

1. Provide for large scale training of interpreters in methods of formal school education. Such training could be provided by education specialists, both at the regional and individual unit level. An effort should be made to have one employee at each site trained in formal school group programming.

2. Recognize the labor intensiveness of a tailor-fit education program, and provide increased numbers of staff positions to handle increased work load. Also necessary is allotment of appropriate time for the development, implementation and evaluation of programs through the curriculum incorporation process.

3. Prioritize management concerns to provide increased staff and resources to interpreters involved with educational programming.

4. Establish a method for regulating use and protecting fragile resources from overuse by school groups -- or increased visitation due to school programming. It needs to be recognized that this regulation may necessitate greater numbers of off-site programs to protect park resources.

If the National Park Service’s educational outreach program is to succeed, more staff and training in formal education methods must be provided. If the institutional commitment is made, there is great potential to help schools achieve their educational objectives and to enable the parks to fulfill their mission to promote, regulate and provide for the future enjoyment of the national parks by the citizens of the United States.
REFERENCES CITED


15. Harold Bryant, 45.

16. Harold Bryant, 45.

17. Conrad Wirth, Memorandum to All Field Offices, 23 April 1953.


20. National Park Education Task Force, ?.


24. Kathleen Tevyaw, 9.


27. J.F. Disinger, 87.


31. J. F. Disinger, 84.

33. J. F. Disinger, 84.

34. J. F. Disinger, 84.


36. William Everhart, p.29.


49. R. Kraus and L. Allen


53. B. R. Worthen, and J. R. Sanders


APPENDIX A

Map of the Midwest Region of the NPS
APPENDIX A: Midwest Region of N.P.S.
APPENDIX B

Survey Instrument for *Education in the NPS*
17. Please identify significant achievements your education program has had.

18. What changes do you expect in education programs at your site in 1991 and beyond?

Please include a copy of all materials used with each program offered, including pre-trip teacher and student information and post-trip packets.

Return to: Warren Bielenberg/Nalani McCutcheon
National Park Service - Midwest Region
1709 Jackson Street
Omaha, NE 68102-2571
Note: the following questions refer to formal on-site, off-site and outreach educational programs within the past year.

Formal educational programs are an educational service that conveys environmental/ecological/historical principles as its main theme even though it uses park resources as illustrations in the course of instruction. It may be presented off- or on-site and is primarily offered to school groups or other education assemblies (as stated in NPS-6:Appendix A, attachment #1, page 4).

15. In 1990, the total number of school groups visiting my site and number of children were as follows:

<table>
<thead>
<tr>
<th># of groups</th>
<th># of children</th>
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</table>

Approximate number of groups receiving formal education programs

Approximate percentage of groups receiving formal education programs by grade:

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<th>Count</th>
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<td>PS</td>
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<tr>
<td>K</td>
<td>8</td>
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<td>11</td>
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<td>4</td>
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<td>5</td>
<td>post-high</td>
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16. During 1990, schools visited your site from how many of each of the following categories?

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
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<tbody>
<tr>
<td>States (please list)</td>
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</tr>
<tr>
<td>Counties (please list)</td>
<td></td>
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<tr>
<td>School districts (please list those that visit most frequently)</td>
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</table>
TRAINING

13. Please indicate the number of permanent and non-permanent personnel possessing the following training.

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<tr>
<th>Permanent</th>
<th>Non-permanent</th>
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<td></td>
<td>Teaching certification in state of residence</td>
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<td></td>
<td>Education degree - no certification</td>
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<tr>
<td></td>
<td>College degree other than education</td>
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<tr>
<td></td>
<td>One or more classes in education</td>
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<tr>
<td></td>
<td>College courses in interpretation</td>
</tr>
<tr>
<td></td>
<td>National Park Service training in interpretation</td>
</tr>
</tbody>
</table>

14. On the following scale, rate the type of training your staff perceives is needed to better serve educational programs?

1 = No need
2 = Little need
3 = Neutral
4 = Some need
5 = Great need

PROGRAMMING

6. What types of educational programs did you offer in 1990? (check all that apply)

___ On-site Resource Oriented
___ Off-site
___ Teacher Workshop
___ Traveling Trunk
___ Custom Designed Programs
___ Other (specify) _______________________

7. Educational programs at my site in 1990 were geared toward the following ages: (check all that apply)

___ PS  ___ 3  ___ 7  ___ 11
___ K  ___ 4  ___ 8  ___ 12
___ 1  ___ 5  ___ 9  ___ Post-High
___ 2  ___ 6  ___ 10

For the above programs, were they developed to incorporate curriculum of the state and local school districts?

___ Yes  ___ No

If yes, please describe how you have incorporated the curriculum.

8. If you answered yes to the second part of #7, do teachers or school administrators assist in developing or reviewing program design and content?  ___ Yes  ___ No
9. Do you cooperate with other agencies to sponsor joint educational programs? Example: working with a state museum in a co-sponsored on-going educational program where schools spend half a day at each site and the programs' content compliments each other.  

___ Yes  ___ No

If yes, please list the participating agencies (i.e. SCS, museums, parks or school districts) and describe your program.

10. List the titles of school programs offered in 1990 and indicate the age group toward which each is focused. If a program catalog is available, simply submit it.

How many are on-site? ___
How many are off-site? ___

11. Does program demand exceed your ability to give programs requested? Please check the most applicable.

___ We can serve more school groups
___ We are approaching our limit for serving school groups
___ We are at our limit for serving school groups
___ We have several requests beyond which we can serve
___ We have numerous requests beyond which we can serve

**EVALUATION**

12. How do you monitor and evaluate the effectiveness of your supporting materials, programs and instruction? (check all that apply)

___ We do not have a formal evaluation process
___ We measure learner outcomes with post activity quizzes
___ We provide feedback/critique forms to group leaders
___ Other

If you have a method of evaluation, please submit a sample form or describe.
Education in the National Parks

What are we doing in the Midwest Region?

Compiled by:
Nalani McCutcheon
Education Project Coordinator
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Self Assessed Training Needs By Topic

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Section Three: Examples of Evaluation Instruments
Section One: Overview of the Midwest Region's Educational Programming
Types of Educational Programs Offered
Program Logistics
Self Assessed Training Needs By Topic
<table>
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<th>Site</th>
<th>On-site</th>
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### SELF ASSESSED TRAINING NEEDS BY TOPIC

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1 = No Need  
2 = Little Need  
3 = Neutral  
4 = Some Need  
5 = Great Need
Section Two: Overview of Individual Site Educational Programming
AGATE FOSSIL BEDS NATIONAL MONUMENT
AGFO

LEGISLATIVE MANDATE
"...That in order to preserve for the benefit and enjoyment of present and future generations the outstanding paleontological sites known as the Agate Springs Fossil Quarries, and nearby related geological phenomena, to provide a center for continuing paleontological research and for the display and interpretation of the scientific specimens uncovered at such sites, and to facilitate the protection and exhibition of a valuable collection of Indian artifacts and relics that are representative of an important phase of Indian History...."

PERSONNEL CONSTRAINTS

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<tr>
<th>4</th>
<th>FTE's Perm. (positions)</th>
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<tr>
<td>1</td>
<td>FTE's Temp. (positions)</td>
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</table>

43% FTE's devoted to interpretation.

TYPES OF EDUCATIONAL PROGRAMS OFFERED
On-site Resource Oriented
Off-site

GRADES FOR EDUCATIONAL PROGRAMS
K-8th grade
9th-12th grade off-site programs

CURRICULUM INCORPORATION
Interpreting the natural resources of the site complements programs in local schools that teach geologic and paleontologic principles.

Teachers and school administrators did not assist in developing or reviewing these programs, but the opportunity is there for AGFO to become more involved in coordination efforts and to take the initiative to reach more schools.

COOPERATING AGENCIES/JOINT PROGRAMS
No program cooperation is taking place at this time.

PROGRAM TITLES
Do not have formal titles programs as yet.

EVALUATION
No formal evaluation process.
### FORMAL GROUP ON-SITE VISITATION
8 groups with a total of 315 students visited the site in 1990. All of these groups received a formal education program.

Since schools often combine 4-5 grades, accurate assessment of grade distribution is difficult. Heaviest use appears to be 3rd - 6th grade.

School visitation is drawn from 4 counties.

### RECENT ACHIEVEMENTS
Working on raising local community awareness of the importance of this site and its resources. Also to enhance local pride in the NPS role in the area.

Working to create a credible reputation for AGFO in local elementary and middle schools and provide a positive opportunity for program development.

### EXPECTED CHANGES
Greater on-site visitation.

Growth of interpretive discipline as facilities are developed for visitor education.
On September 26, 1970, Congress passed Public Law 91-424 authorizing the establishment of Apostle Islands National Lakeshore. APIS is to:

"conserve and develop for the benefit, inspiration, education, recreational use and enjoyment of the public certain significant islands and shoreline... and their related geographic, scenic, and scientific values...."

### PERSONNEL CONSTRAINTS

- 3 FTE's Perm. (positions)
- 8 FTE's Temp. (positions)

12% FTE's devoted to interpretation.

### TYPES OF EDUCATIONAL PROGRAMS OFFERED

- On-site Resource Oriented
- Off-site

### GRADES FOR EDUCATIONAL PROGRAMS

4th - 6th grade

### CURRICULUM INCORPORATION

Programs have not been developed to incorporate curriculum of state and local school districts.

### COOPERATING AGENCIES/JOINT PROGRAMS

APIS works with Northland College and Sigurd Olson Environmental Institute to offer the Apostle Islands Outdoor School, a 2 1/2 day residential environmental education program. This is held on Stockton Island and is instructed by Northland College students and the staff of Sigurd Olson Environmental Institute.

### PROGRAM TITLES

- Apostle Islands Outdoor School
- Earth Day Programs
- School Field Trips

Of these, two are on-site and one is off-site.

### EVALUATION

No formal evaluation process.
FORMAL GROUP ON-SITE VISITATION

21 groups with a total of 673 students were served.

6th graders represent the largest percentage of students.

School visitation is drawn from 2 counties.

EXPECTED CHANGES

The cooperative program, Apostle Islands Outdoor School, will add day trips in addition to the overnights. This will increase both the number of schools and students participating.
**CUYAHOGA VALLEY NATIONAL RECREATION AREA**

**LEGISLATIVE MANDATE**
The Cuyahoga Valley National Recreation Area was created by Act of Congress on December 27, 1974, through Public Law 93-555. Cuyahoga Valley National Recreation Area has the purpose of preserving and protecting:

"...for public use and enjoyment, the historic, scenic, natural, and recreational values of the Cuyahoga River and the adjacent lands of the Cuyahoga Valley and for the purpose of providing for the maintenance of needed recreational open space necessary to the urban environment....In management of the recreation area, the Secretary of the Interior....shall utilize the recreation area resources in a manner which will preserve its scenic, natural, and historic setting while providing for the recreational and educational needs of the visiting public."

**PERSONNEL CONSTRAINTS**

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<th>FTE's Perm. (positions)</th>
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<td>FTE's Temp. (positions)</td>
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17.5% of FTE's devoted to interpretation.

**TYPES OF EDUCATIONAL PROGRAMS OFFERED**

- On-site Resource Oriented
- Off-site
- Teacher Workshop
- Custom Designed Programs
- Other - Acid Rain; Biodiversity Initiatives

**GRADES FOR EDUCATIONAL PROGRAM**

| PS - Post-High |

**CURRICULUM INCORPORATION**

None at present.

In Fall 1991, CUVA is planning to work with the University of Akron and a formal committee of area educators to develop comprehensive curriculum materials for the Cuyahoga Valley Environmental Education Center. This process will utilize teachers and school administrators to assist in developing and reviewing program design.

**COORDINATING AGENCIES/JOINT PROGRAMS**

CUVA works with the University of Akron, Kent State University and the Cleveland Education Fund to offer teacher workshops.
### PROGRAM TITLES

- **The Ohio and Erie Canal** - Students trace the history of Ohio & Erie Canal and gain a better understanding of what life on the canal might have been like in the early 1800's.
- **Discovering the Forest Community** - Students will take a close look at many levels of the forest, from the floor to the rooftop.
- **The Life of the Pond** - Working in small groups, students will discover the endless varieties of strange and unusual creatures inhabiting the pond.
- **Exploring the Stream Community** - Students search for the many denizens of the stream environment, and observe the ways in which they live.

Of these, all are on-site with one available off-site.

### EVALUATION

No formal evaluation process.

Evaluation tools to be developed in 1992.

### FORMAL GROUP ON-SITE VISITATION

118 groups with a total of 3,400 students visited the site. Nearly all of these (110) received formal education programs.

Emphasis is placed on grades 2-6.

School visitation is drawn from 5 counties.

### RECENT ACHIEVEMENTS/EXPECTED CHANGES

CUVA is currently proposing to develop a 500 acre environmental education campus. This will be managed and its educational programs conducted by the University of Akron under a cooperative agreement with the NPS. This EE campus will fit into the park’s comprehensive Plan for Environmental Education, a guide to the park’s future and larger environmental education efforts, which was completed in 1988.
**LEGISLATIVE MANDATE**

Effigy Mounds National Monument was established by Presidential Proclamation 2860 dated October 25, 1949, to preserve a representative and outstanding example of a significant phase of the Indian Mound Building Culture of the prehistoric American Indians, and to protect wildlife, scenic, and other natural values of the area.

**PERSONNEL CONSTRAINTS**

| 2 FTE's Perm. (positions) | 7 FTE's Temp. (positions) |

40% of FTE's devoted to interpretation.

**TYPES OF EDUCATIONAL PROGRAMS OFFERED**

- On-site Resource Oriented
- Off-site

**GRADERS FOR EDUCATIONAL PROGRAMS**

- 4th - Post-High

**CURRICULUM INCORPORATION**

Programs have been developed to incorporate curriculum of the local school districts.

Local instructors in the immediate area near Effigy Mounds were asked to assist in the completion of an Educational Packet for school groups.

**COOPERATING AGENCIES/JOINT PROGRAMS**

EFMO works with Wyalusing State Park, WI. Students spend two to three days in Wyalusing State Park and incorporate a visit to Effigy Mounds during this time. EFMO also offers off-site programs at this park.

**PROGRAM TITLES**

- Fire Point Tour
- Off-site programs - general orientation of Effigy Mounds
- Career Days

One of these is on-site, the other two are available off-site.

**EVALUATION**

No formal evaluation process.
Grades 2nd-6th represent the largest part of the population, with 6th grade being the largest single grade.

School visitation is drawn from 4 states and an undetermined number of counties. Over 80 school districts are represented.

Would like to continue to improve on the educational/informational booklet, as well as produce an interpretive/educational annual newsletter, establish a Jr. Ranger program, establish an historical interpretive program, and develop a video tape of the Monument.
**FORT LARNED NATIONAL HISTORIC SITE**

**FOLS**

### LEGISLATIVE MANDATE
Fort Larned National Historic Site was established by Congress on August 31, 1964 (P.L. 88-541) (78 Stat. 748) to commemorate the significant role the fort played in the opening of the west.

### PERSONNEL CONSTRAINTS

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38% of FTE's are devoted to interpretation.

### TYPES OF EDUCATIONAL PROGRAMS OFFERED

- On-site Resource Oriented
- Off-site

### GRADES FOR EDUCATIONAL PROGRAMS

- PS - Post-High

### CURRICULUM INCORPORATION

Programs have not been developed to incorporate curriculum of the state and local school districts.

### COOPERATING AGENCIES/JOINT PROGRAMS

None

### PROGRAM TITLES

- Soldiering on the Santa Fe Trail
- Soldiers Life at Fort Larned

Both are offered on-site, with one program available off-site.

### EVALUATION

No formal evaluation process.

### FORMAL GROUP ON-SITE VISITATION

83 groups with a total of 3,095 students visited the site. All of these received formal education programs.

Grades 4th-6th represent the largest part of the population, with the 5th grade being the single largest grade.

School visitation is drawn from 23 counties.
RECENT ACHIEVEMENTS
Verbal feedback indicates that teachers feel field trips to FOLS are generally the most beneficial they take.

EXPECTED CHANGES
Planning a special Buffalo Soldier program to educate schools in Black history as it relates to early Kansas history.
**FORT SCOTT NATIONAL HISTORIC SITE**  
**FOSC**

### LEGISLATIVE MANDATE
Fort Scott was established on October 19, 1978 by Public Law 95-484 with the purpose "...to commemorate the significant role played by Fort Scott in the opening of the West, as well as the Civil War and the strife in the State of Kansas that preceded it...". It is to be administered in accordance with the National Park Service Act of 1916.

### PERSONNEL CONSTRAINTS

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30% of FTE's devoted to interpretation.

### TYPES OF EDUCATIONAL PROGRAMS OFFERED

- Off-site
- Custom Designed Programs
- Other - on-site school tour specific program

### GRADES FOR EDUCATIONAL PROGRAMS

- PS - 12th grade

### CURRICULUM INCORPORATION
Some programs have been specifically designed to incorporate objectives of local schools. Examples include: political science classes receiving talks on political issues of the 1840's, cooking classes receiving special cooking demonstrations on open hearth cooking techniques, and Civil War talks geared to 5th grader's learning about the Civil War.

Teachers or school administrators assisted in the developing of program design and content.

### COOPERATING AGENCIES/JOINT PROGRAMS
Fort Scott works with the #234 school district, the Ralph Richards Museum, and the Historic Preservation Association to present programs.

### PROGRAM TITLES

- "Life on the Frontier" - K-6 grades
- "Life on the Frontier" - K-12 grades
- Open Hearth Cooking - 10-12 grades
- Civil War - 11-12 grades
- Bleeding Kansas - 10-12 grades

### EVALUATION
Learner outcomes are measured with post activity quizzes.
Provide feedback/critique forms to the group leaders.

Evaluation forms are revised each year to evaluate different aspects of the program.
FORMAL GROUP ON-SITE VISITATION
80 groups including 5,469 students visited the site in 1990. Of these, 76 received formal education programs.

Visitation consisted primarily of 2-6th graders with 5th grade comprising the largest number.

School visitation is drawn from 31 counties.

RECENT ACHIEVEMENTS
Consolidated at least 4,000 students in a ten half-day program on our “Life on the Frontier” school program. This program is able to span first grade through 6th grade. It has become so popular that now several middle and high schools want to attend.

EXPECTED CHANGES
Need to accommodate the ever growing number of school tour requests. The 6th-12th grade students need to have a separate program designed to their level in the future. Several teachers requested more station talks than currently offered.
George Rogers Clark National Historical Park was established on July 23, 1966, to commemorate the important role of George Rogers Clark and his small force of frontiersmen during the American Revolution.

### Personnel Constraints

| 3 | FTE's Perm. (positions) |
| 4 | FTE's Temp. (positions) |

32% of FTE's devoted to interpretation.

### Types of Educational Programs Offered

- On-site Resource Oriented
- Off-site

### Grades for Educational Programs

- 4th grade

### Curriculum Incorporation

Programs have been developed to incorporate curriculum of state and local school districts. Indiana History, including George Rogers Clark's campaign is taught in the 4th grade.

Teacher and school administrators comments have been solicited in the past.

### Cooperating Agencies/Joint Programs

George Rogers Clark works with the Home of William Henry Harrison, the Territorial Capitol, the Western Sun Print Shop, and the Old French House.

### Program Titles

- The Role of George Rogers Clark in the American Revolution in the West

This program is available both on- and off-site.

### Evaluation

None currently.

Feedback/critique form provided to group leaders in years past.

### Formal Group On-Site Visitation

# of groups and children non-available.

Fourth grade represents the largest part of the visitation.

School visitation is drawn from 13 counties.
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<th>RECENT ACHIEVEMENTS</th>
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<td>The program has reinforced the knowledge and awareness of the important role of George Rogers Clark in the American Revolution that students receive in their school history courses.</td>
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<th>EXPECTED CHANGES</th>
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<td>Will continue to improve the programs for school groups. These are considered the single most important interpretive activity.</td>
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George Washington Carver National Monument was established on July 14, 1943 (57 Stat. 563) as a public memorial to George Washington Carver in recognition of his outstanding achievements as a scientist, educator, and humanitarian. It stated that “The director of the NPS, shall have the supervision, management, and control of such national monument and shall maintain and preserve it in a suitable and enduring manner which, in his judgement, will provide for the benefit and enjoyment of the people of the United States.”

### PERSONNEL CONSTRAINTS

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35% of FTE's devoted to interpretation.

### TYPES OF EDUCATIONAL PROGRAMS OFFERED

- On-site Resource Oriented
- Off-site
- Teacher Workshop
- Custom Designed Programs
- Other - Drug Awareness Resistance Education
  - Teacher's Workshop on Biological Diversity

### GRADES FOR EDUCATIONAL PROGRAMS

- PS - 8th grade
- Post-High

### CURRICULUM INCORPORATION

Programs have been developed to incorporate curriculum of state and local school districts. The State has a history requirement for the 4th grade and these requirements have been infused into the 4th grade curriculum on Dr. Carver prepared by the park staff.

Teachers and school administrators assisted in developing the program design and content.

### COOPERATING AGENCIES/JOINT PROGRAMS

Cooperate with the Missouri Department of Conservation, the 4-H Council, the Boy and Girl Scouts, and the Joplin School District.

### PROGRAM TITLES

Primary program is a guided tour of the Carver Trail.
Special programs on the environment are prepared on request.

### EVALUATION

A feedback/critique form is provided to group leaders. Verbal feedback is also solicited.
**FORMAL GROUP ON-SITE VISITATION**

153 groups including 5,946 students visited the site in 1990. Of these, 123 groups received formal education programs.

Fourth grade represents the largest portion of the visitation.

School visitation is drawn from 4 states and 12 school district.

**RECENT ACHIEVEMENTS**

- Contacted 5,000 school children per year.
- Increased racial, scientific, and historical understanding.
- Developed a fourth grade curriculum on Dr. Carver.
- Off-site programs including Outdoor Recreation Day.

**EXPECTED CHANGES**

- Would like to set up some type of "Education Week" or specific days where staff can really concentrate on programs.
- Would like to encourage groups to come out all year instead of the intense six weeks in the Spring when they cannot all be accommodated.
- Currently developing a Bio Diversity Traveling Trunk.
GRAND PORTAGE NATIONAL MONUMENT
GRPO

**LEGISLATIVE MANDATE**
The purpose of the Monument is stated in legislation enacted by the Congress of the United States authorizing the establishment of Grand Portage National Monument on September 2, 1958 (72 Stat. 1751). The Act stated that the Monument was to be established “for the purpose of preserving an area containing unique historical values...” It is to be managed in accordance with the National Park Service Act of 1916.

**PERSONNEL CONSTRAINTS**

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<th>2 FTE's Perm. (positions)</th>
<th>14 FTE's Temp. (positions)</th>
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36% FTE's devoted to interpretation.

**TYPES OF EDUCATIONAL PROGRAMS OFFERED**
On-site Resource Oriented

**GRADES FOR EDUCATIONAL PROGRAMS**
6th grade

**CURRICULUM INCORPORATION**
Programs have not been developed to incorporate curriculum of state and local school districts.

**COOPERATING AGENCIES/JOINT PROGRAMS**
None

**PROGRAM TITLES**
The Fur Trade & Westward Expansion
The Fur Trade & Biodiversity

Both programs are offered on-site.

**EVALUATION**
No formal evaluation process.

**FORMAL GROUP ON-SITE VISITATION**
2 groups of sixth graders were served in 1990, including a total of 80 students.

Both of these received formal education programs.

School visitation is drawn from 2 counties.

**EXPECTED CHANGES**
Hope to do more outreach programs with local schools and the Wolf Ridge Environmental Learning Center plus encourage more on-site use.
**HERBERT HOOVER NATIONAL HISTORIC SITE**  
**HEHO**

**LEGISLATIVE MANDATE**

Herbert Hoover National Historic Site was developed to commemorate the birth of Herbert Hoover, 31st President of the United States. The Act of August 12, 1965 (Public Law 89-119 (79 Stat. 510)) stated that the purpose is “...to preserve in public ownership historically significant properties associated with the life of Herbert Hoover.”

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<th>3 FTE’s Perm. (positions)</th>
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27% of FTE’s devoted to interpretation.

**TYPES OF EDUCATIONAL PROGRAMS OFFERED**

- On-site Resource Oriented
- Off-site
- Teacher Workshop
- Custom Designed Programs
- Other - Pre-visit Orientation

**GRADERS FOR EDUCATIONAL PROGRAMS**

4th - 6th grade

**CURRICULUM INCORPORATION**

Programs have been developed to incorporate curriculum of state and local school districts. Students study Iowa history in 5th grade. Initial development phase was assisted with by school personnel.

**COOPERATIVE AGENCIES/JOINT PROGRAMS**

Work with the National Archives and Records Administration in coordination of guided tours of both facilities, co-sponsor teacher workshops and coordinate pre-visit orientation programs.

**PROGRAM TITLES**

- General orientation to the site and the presidential library.
  - Offered both on- and off-site.

**EVALUATION**

Method of evaluation is informal. Verbally gather information and feedback from teachers.

**FORMAL GROUP ON-SITE VISITATION**

392 groups consisting of 10,999 students visited the site in 1990. Sixty-nine percent received formal education programs.

Visitation consists primarily of 4-6th graders, with 5th grade comprising the largest group. School visitation is drawn from 2 states and an undetermined number of counties.
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<th>RECENT ACHIEVEMENTS</th>
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<td>Number of school groups has approximately doubled in last 4-5 years.</td>
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<tr>
<td>Most schools are repeat visits year after year with many visiting twice a year.</td>
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</table>
**LEGISLATIVE MANDATE**

Homestead National Monument of America was established by an Act of Congress on March 19, 1936 (49 Stat. 1184). The intent of Congress was to establish "...an appropriate monument to retain for posterity a proper memorial emblematical of the hardships and the pioneer life through which the early settlers passed in the settlement, cultivation, and civilization of the great West...."

**PERSONNEL CONSTRAINTS**

2 FTE's Perm. (positions) 1 FTE's Temp. (positions)

19% FTE's devoted to interpretation.

**TYPES OF EDUCATIONAL PROGRAMS OFFERED**

- On-site Resource Oriented
- Off-site
- Traveling Trunk
- Custom Designed Programs

**GRADES FOR EDUCATIONAL PROGRAMS**

PS - Post-High

**CURRICULUM INCORPORATION**

Programs have not been developed to incorporate curriculum of state and local school districts. Many programs do, however, have themes that are identical to curriculum in state and local schools.

**COOPERATIVE AGENCIES/JOINT PROGRAMS**

Do not formally sponsor joint programs. However, many school groups spend 1/2 day at HOME and the other 1/2 day at the Gage County Historical Museum or Rock Creek State Historical Park.

**PROGRAM TITLES**

- The Homestead Act and Opening of the West
- Pioneer Life (Frontier Farmer)
- Native Tall Grass Prairie

Offered both on- and off-site.

**EVALUATION**

Provide feedback/critique forms to group leaders.
<table>
<thead>
<tr>
<th>FORMAL GROUP ON-SITE VISITATION</th>
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<tr>
<td>Approximately 85 groups including 1,700 students visited the site in 1990. About 50 of these received formal educational programs.</td>
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<tr>
<td>Visitation consists primarily of 3rd-5th grade, with the 4th grade comprising the largest group.</td>
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<tr>
<td>School visitation is drawn from 2 states and an undetermined number of counties.</td>
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<tr>
<th>RECENT ACHIEVEMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prairie appreciation programs are significant educational tools at Homestead.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EXPECTED CHANGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational programs will improve in quality and quantity in the future.</td>
</tr>
</tbody>
</table>
**HARRY S TRUMAN NATIONAL HISTORIC SITE**

**LEGISLATIVE MANDATE**

Congress authorized the Harry S Truman National Historic Site on May 23, 1983 to "preserve and interpret for the inspiration and benefit of present and future generations the former home of Harry S. Truman, thirty-third President of the United States." (public law 98-32 (97 Stat. 193))

**PERSONNEL CONSTRAINTS**

<table>
<thead>
<tr>
<th>FTE's Perm. (positions)</th>
<th>FTE's Temp. (positions)</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>4</em></td>
<td><em>11</em></td>
</tr>
</tbody>
</table>

48% of FTE's devoted to interpretation.

**TYPES OF EDUCATIONAL PROGRAMS OFFERED**

- On-site Resource Oriented
- Off-site

**GRADES FOR EDUCATIONAL PROGRAMS**

- PS - 12th grade

**CURRICULUM INCORPORATION**

Programs have not been developed to incorporate curriculum of state and local school districts.

**COOPERATING AGENCIES/JOINT PROGRAMS**

None

**PROGRAM TITLES**

- H.S. Truman Home Tour
- National Park Service and a Park Ranger's Life

One is on-site and the other is off-site.

**EVALUATION**

No formal evaluation process.

**FORMAL GROUP ON-SITE VISITATION**

61 groups including 2,572 students visited the site.

All of these received formal education programs.

School visitation is drawn from 4 counties.

**EXPECTED CHANGES**

Plan to develop new programs.
**INDIANA DUNES NATIONAL LAKESHORE**

**INDU**

**LEGISLATIVE MANDATE**

Established by an act of Congress (P.L. 89-761) in 1966, "...to preserve for the educational, inspirational and recreational use of the public certain portions of the Indiana Dunes and other areas of scenic, scientific, and historic interest and recreational value in the State of Indiana..."

**PERSONNEL CONSTRAINTS**

| 14  | FTE's Perm. (positions)  | 35  | FTE's Temp. (positions) |

22% of FTE's devoted to interpretation.

**TYPES OF EDUCATIONAL PROGRAMS OFFERED**

- On-site Resource Oriented
- Off-site
- Teacher Workshop
- Custom Designed Programs

**GRADES FOR EDUCATIONAL PROGRAMS**

- PS - Post-High

**CURRICULUM INCORPORATION**

Programs have been developed to incorporate curriculum of state and local school districts. Teachers and/or administrators are involved in development of programs through program review, pre-development conferences or committees. Involvement varies with each program.

**COOPERATIVE AGENCIES/JOINT PROGRAMS**

Work with Indiana Dunes State Park in joint programs for schools.

Work with Soil and Water Conservation District also in joint programs for schools.

**PROGRAM TITLES**

An extensive list of programs is offered seasonally.

**EVALUATION**

Staff review and verbal teacher feedback are methods used in evaluation.

**FORMAL GROUP ON-SITE VISITATION**

2,326 groups including 59,495 students visited the site in 1990. All of these received formal education programs.

Visitation primarily consisted of 3rd-6th graders, with 4th grade comprising the largest group.

School visitation is drawn from over 10 counties.
<table>
<thead>
<tr>
<th>RECENT ACHIEVEMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extensive outreach to urban and hispanic communities.</td>
</tr>
<tr>
<td>Routinely refine old/develop new programs (5 per year).</td>
</tr>
<tr>
<td>Continued increases in number of students served: nearly 60,000 in FY90.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EXPECTED CHANGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation in NPS Education Initiative:</td>
</tr>
<tr>
<td>Conduct workshops to instruct teachers on use of park facilities for EE programs on their own.</td>
</tr>
<tr>
<td>Offer individual training to MWR interpreters in EE programs development and operations.</td>
</tr>
</tbody>
</table>
ISLE ROYALE NATIONAL PARK
ISRO

LEGISLATIVE MANDATE
Isle Royale National Park was authorized by Act of Congress on March 31, 1931, (House Bill No. 17005 and 46 STAT 1514). The committee report accompanying the legislation is specific on the park’s purpose: to preserve wilderness and the plant and animal resources in a primeval manner. It says the island is particularly adapted for the building of a “simple system of horse and hiking trails from one end of the island to the other.” It specifically mentions that these trails could be built “without disturbing the wilderness character of the area or the wildlife.” It also says “complete protection, of course, is the prime object aimed at.”

PERSONNEL CONSTRAINTS

<table>
<thead>
<tr>
<th>6 FTE’s Perm. (positions)</th>
<th>5 FTE’s Temp. (positions)</th>
</tr>
</thead>
</table>

10% FTE’s devoted to interpretation.

TYPES OF EDUCATIONAL PROGRAMS OFFERED
On-site Resource Oriented (Vessel Ranger III)
Custom Designed Programs

GRADES FOR EDUCATIONAL PROGRAMS
3rd - 5th grade
Post-High

CURRICULUM INCORPORATION
Programs have not been developed to incorporate curriculum of the state and local school districts.

COORDERATIVE AGENCIES/Joint PROGRAMS
Work with Michigan Tech University, Seaman Mineral Museum, and Houghton County Museum to present educational programs.

PROGRAM TITLES
Introducing Isle Royale National Park
Predators and Prey at Isle Royale

EVALUATION
No formal evaluation process.

FORMAL GROUP ON-SITE VISITATION
13 groups including 395 students visited the site in 1990. All received formal education programs.

Visitation primarily consisted of 3-4th graders, with 4th grade comprising the largest group.

School visitation is drawn from 3 counties.
RECENT ACHIEVEMENTS

Isle Royale is a remote island wilderness, and this is the principal way local school kids "visit" it.

Established a video loan program that reached 2,800 people.
Jefferson National Expansion Memorial was established by executive order in 1935. The legislative basis for the executive order is found in the Historic Sites Act of August 21, 1935, which declares that: “It is a national policy to preserve for public use historic sites, buildings and objects of national significance for the inspiration and benefit of the people of the United States.”

### Personnel Constraints

- **23** FTE’s Perm. (positions)
- **8** FTE’s Temp. (positions)
- 20% FTE’s devoted to interpretation.

### Types of Educational Programs Offered

- On-site Resource Oriented
- Off-site
- Teacher Workshop
- Traveling Trunk
- Custom Designed Programs
- Other - Film and Videotape Loans

### Grades for Educational Programs

- PS - 12th grade

### Curriculum Incorporation

Programs have been developed to incorporate curriculum of the state and local schools. Staff met with Curriculum Specialists and Instructional Coordinators from the St. Louis City Schools, purchased their curriculum guides and textbooks for each grade, and acquired the Core Competencies and Key Skills for Missouri Schools from the Missouri Department of Elementary and Secondary Education Office. The educational concepts, skills and learner outcomes were correlated with park themes, topics, methods, and techniques to provide students a unique opportunity in experiential learning.

### Cooperating Agencies/Joint Programs

Have contracts to provide extensive services for the City of St. Louis (through the School Partnership Program) and a Magnet School.

### Formal Group On-Site Visitation

1,435 groups including 76,246 students visited the site in 1990. 51,560 students received formal education programs.

Visitation primarily consisted of 3rd - 6th graders, with 4th grade comprising the largest number.

School visitation was drawn from 160 counties.
<table>
<thead>
<tr>
<th>PROGRAM TITLES</th>
<th>Museum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old Courthouse</td>
<td>General Tour</td>
</tr>
<tr>
<td>Old Courthouse Tour</td>
<td>Lewis and Clark Expedition</td>
</tr>
<tr>
<td>Fur Trading Post</td>
<td>Trappers and Traders</td>
</tr>
<tr>
<td>Rivers, Roads, and Rails</td>
<td>Overlanders</td>
</tr>
<tr>
<td>St. Louis Lifestyles</td>
<td>Cowboys</td>
</tr>
<tr>
<td>Freedom School</td>
<td>Sodbusters</td>
</tr>
<tr>
<td>Melting Pot</td>
<td>Blacks of the West</td>
</tr>
<tr>
<td>African-American Heritage of St. Louis</td>
<td>Immigrants of the Frontier</td>
</tr>
<tr>
<td>Mock Trials - variety of six</td>
<td>American Indians</td>
</tr>
<tr>
<td>Girl Scout Programs (4)</td>
<td></td>
</tr>
<tr>
<td>Boy Scout Programs (5)</td>
<td></td>
</tr>
<tr>
<td>Traveling Trunk (8)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EVALUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure learner outcomes with post activity quizzes.</td>
</tr>
<tr>
<td>Provide feedback/critique forms to group leaders and students.</td>
</tr>
<tr>
<td>Students complete written journals.</td>
</tr>
<tr>
<td>Interpreters evaluate each group.</td>
</tr>
<tr>
<td>Provide feedback/critique forms for traveling trunks.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RECENT ACHIEVEMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1977 Museum Education Specialist hired and education program initiated</td>
</tr>
<tr>
<td>1978 Accredited teacher workshops and summer programs for children</td>
</tr>
<tr>
<td>1980 Interpretation Division heads education programming and planning</td>
</tr>
<tr>
<td>&quot;Lewis and Clark Expedition&quot; puppet show added</td>
</tr>
<tr>
<td>Partnership Program piloted</td>
</tr>
<tr>
<td>Traveling Exhibits, Frontier Folklife Program, and Storytelling Festival</td>
</tr>
<tr>
<td>1983 Black History Month activities</td>
</tr>
<tr>
<td>1986 Education Specialist hired for trial period - made permanent year later</td>
</tr>
<tr>
<td>Revamped Partnership Program</td>
</tr>
<tr>
<td>Initiated Magnet School Program</td>
</tr>
<tr>
<td>1987 Director of Education position approved</td>
</tr>
<tr>
<td>Traveling Trunk Program initiated</td>
</tr>
<tr>
<td>1988 Education Assistant approved</td>
</tr>
<tr>
<td>1989 Pre-site Slide Packet for Old Courthouse produced</td>
</tr>
<tr>
<td>School reservation system computerized</td>
</tr>
<tr>
<td>1990 Dred Scott Trial Slide and Activity Packet created</td>
</tr>
<tr>
<td>Scout Programs designed by badge requirements</td>
</tr>
<tr>
<td>High School program piloted and resulted in 3 summer interns</td>
</tr>
<tr>
<td>Preschool Partnership Program piloted</td>
</tr>
<tr>
<td>1991 Traveling Trunk program serves clients across the nation</td>
</tr>
<tr>
<td>EXPECTED CHANGES</td>
</tr>
<tr>
<td>------------------</td>
</tr>
<tr>
<td>Enhance packaging and promotion of program materials</td>
</tr>
<tr>
<td>Revise pre-site slide and activity packet for museum and old courthouse</td>
</tr>
<tr>
<td>Teacher evaluation panels and enhance evaluation system</td>
</tr>
<tr>
<td>Formal teacher and scout leader workshops</td>
</tr>
<tr>
<td>Duplication of traveling trunks to meet increased demand</td>
</tr>
<tr>
<td>Joint education programs with local museums</td>
</tr>
<tr>
<td>Education programs at Grant NHS</td>
</tr>
<tr>
<td>University accredited workshops and training</td>
</tr>
<tr>
<td>Sponsor national conference on education programs</td>
</tr>
<tr>
<td>Develop video and computer resources</td>
</tr>
<tr>
<td>Develop adult education programs</td>
</tr>
</tbody>
</table>
The establishment of Lincoln Boyhood National Memorial was authorized by the Act of February 19, 1962, Public Law 87-407, 76 Stat. 9. Lincoln Boyhood was dedicated on July 10, 1962, and was established as a unit of the National Park Service on August 15, 1963.

Lincoln Boyhood National Memorial was established "...in order to preserve the site in the State of Indiana associated with the boyhood and family of Abraham Lincoln...." The purpose of the park is to preserve the natural and cultural resources contained within the boundaries of the park associated with the life of Abraham Lincoln.

<table>
<thead>
<tr>
<th>PERSONNEL CONSTRAINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 FTE's Perm. (positions)</td>
</tr>
</tbody>
</table>

45% devoted to interpretation

<table>
<thead>
<tr>
<th>TYPES OF EDUCATIONAL PROGRAMS OFFERED</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-site Resource Oriented</td>
</tr>
<tr>
<td>Off-site</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GRADES OF EDUCATIONAL PROGRAMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd - 5th grade</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CURRICULUM INCORPORATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programs were not developed to incorporate curriculum of the state and local school districts.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COOPERATING AGENCIES/JOINT PROGRAMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROGRAM TITLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abraham Lincoln - his fourteen Indiana years.</td>
</tr>
</tbody>
</table>

Offered both on- and off-site.

<table>
<thead>
<tr>
<th>EVALUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide feedback/critique forms to group leaders.</td>
</tr>
<tr>
<td>Receive verbal feedback from teachers.</td>
</tr>
<tr>
<td>FORMAL GROUP ON-SITE VISITATION</td>
</tr>
<tr>
<td>---------------------------------</td>
</tr>
</tbody>
</table>
351 groups including 14,561 students visited the site in 1990. Of these, 312 groups received formal education programs.

Visitation was primarily from 2nd - 5th graders, with 3rd and 4th grade comprising the largest numbers.

School visitation is drawn from 5 states and over 17 counties in Indiana.

<table>
<thead>
<tr>
<th>EXPECTED CHANGES</th>
</tr>
</thead>
</table>
More demand for Park Staff services.
**LINCOLN HOME NATIONAL HISTORIC SITE**
**LIHO**

### LEGISLATIVE MANDATE
The Lincoln Home National Historic Site was authorized by Public Law 92-127 on August 18, 1971. The legislation stated the purpose of the Historic Site: "To preserve and interpret for the benefit of present and future generations the home of Abraham Lincoln in Springfield, Illinois...."

### PERSONNEL CONSTRAINTS

<table>
<thead>
<tr>
<th>FTE's Perm. (positions)</th>
<th>FTE's Temp. (positions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>12</td>
</tr>
</tbody>
</table>

41% FTE's devoted to interpretation.

### TYPES OF EDUCATIONAL PROGRAMS OFFERED
- On-site Resource Oriented
- Off-site
- Custom Designed Programs

### GRADES OF EDUCATIONAL PROGRAMS
- K - 5th grade

### CURRICULUM INCORPORATION
Programs were developed to incorporate curriculum of the state and local school districts. 5th grad history curriculum concentrates on the Lincoln Heritage in Illinois and Lincoln history, image, and contributions. The Lincoln Home provides and understanding of the man and his life-style. They are designed to provoke interest and understanding of those for the students and provide an introduction to Lincoln's development, character and ideas.

Teachers and school administrators did not assist in developing or reviewing program design and content.

### COOPERATING AGENCIES/JOINT PROGRAMS
none

### PROGRAM TITLES
- Under Lincoln's Hat - 5th grade
- Specially Designed Programs - A visit with Mr. Lincoln's Neighbor K-5
- Elizabeth Edwards Remembers - adults
- Finding Mrs. Lincoln - adults

### EVALUATION
Provide feedback/critique forms to group leaders.
<table>
<thead>
<tr>
<th>FORMAL GROUP ON-SITE VISITATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,402 groups including 53,127 students visited the site in 1990. Of these, 46 groups received formal education programs.</td>
</tr>
<tr>
<td>Visitation is primarily by 5th graders.</td>
</tr>
<tr>
<td>School visitation is drawn from 102 counties.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RECENT ACHIEVEMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>This was an early program that has served as a model for others. LIHO continues to share program materials with other sites to assist new program formulation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EXPECTED CHANGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased numbers of programs should serve more students and hopefully those which are now hardest to reach.</td>
</tr>
</tbody>
</table>
**MOUND CITY GROUP NATIONAL MONUMENT**

**MOUND CITY GROUP NATIONAL MONUMENT**

**LEGISLATIVE MANDATE**

Mound City Group National Monument was established by Proclamation No. 1653 by President Harding on March 2, 1923. The proclamation states the purpose and significance of the park: "...Mound City Group of prehistoric mounds...is an object of great historic and scientific interest and should be permanently preserved and protected from all depredations and from all changes that will to any extent mar or jeopardize their historic value..."

**PERSONNEL CONSTRAINTS**

| 2 FTE's Perm. (positions) | 3 FTE's Temp. (positions) |

21% FTE's devoted to interpretation.

**TYPES OF EDUCATIONAL PROGRAMS OFFERED**

On-site Resource Oriented

**GRADES OF EDUCATIONAL PROGRAMS**

5th - 7th grade

**CURRICULUM INCORPORATION**

Programs were not developed to incorporate curriculum of the state and local school districts.

**COOPERATING AGENCIES/JOINT PROGRAMS**

none

**PROGRAM TITLES**

Not titled - guided walking tour of the mound area.

**EVALUATION**

No formal evaluation process.

**FORMAL GROUP ON-SITE VISITATION**

35 groups including 1,500 students visited the site in 1990.

Visitation evenly distributed between 5th-7th graders.

School visitation drawn from 7 counties.

**EXPECTED CHANGES**

Increased demand.
Established on August 27, 1964 (P.L. 88-492 (78 Stat. 608)), Ozark National Scenic Riverway is dedicated to the "...conserving and interpreting unique scenic and other natural values and objects of historic interest, including preservation of portions of the Current River and Jacks Fork River in Missouri as free-flowing streams, preservation of springs and caves, management of wildlife, and provision for use and enjoyment of the outdoor recreation resources thereof by the people of the United States..."

### PERSONNEL CONSTRAINTS

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>FTE's Perm. (positions)</td>
</tr>
<tr>
<td>9</td>
<td>FTE's Temp. (positions)</td>
</tr>
</tbody>
</table>

### TYPES OF EDUCATIONAL PROGRAMS OFFERED

- On-site Resource Oriented
- Off-site
- Custom Designed Programs
- Other - DARE

### GRADES OF EDUCATIONAL PROGRAMS

4th - 6th grade

### CURRICULUM INCORPORATION

Programs were designed to incorporate curriculum of the state and local school districts. Followed the teacher objectives outline in the *Core Competencies and Key Skills in Missouri Schools*.

Teachers and school administrators assist in developing and reviewing the program through comment forms.

### COOPERATING AGENCIES/JOINT PROGRAMS

None

### PROGRAM TITLES

- Early Ozark Schools
- Links of Life
- Raindrops, Springs and Rivers
- Round Spring Creek School
- Alley Mill
- Stories Creek School

All are offered on- and off-site.

### EVALUATION

Measure learner outcomes with post-activity activities. Provide feedback/critique forms to group leaders.
### FORMAL GROUPS ON-SITE VISITATION

26 groups including 2,216 students visited the site in 1990. All of these received formal education programs.

Visititation is primarily by 4th - 6th graders, with 4th graders comprising the largest number.

School visitation is drawn from over 6 counties.

### RECENT ACHIEVEMENTS

1990 was first year of outreach programs -- contacted 941 students
1991 reached a total of 2115 and added two grade levels

Teacher demand increases with each new program
Program designed in conjunction with MO Core Competencies.

### EXPECTED CHANGES

Added 3 school districts
Included 2nd and 3rd grades
Developed 2 new programs: The Who, What, Where, and Why of the NPS
Earth Day, Everyday
Joint program with Jefferson National Expansion Memorial for 91/92
**PERRY'S VICTORY INTERNAT'L PEACE MEMORIAL**

**PEVI**

**LEGISLATIVE MANDATE**

Established on June 2, 1936 (49 Stat. 1393) "...for the preservation of the historic associations connected therewith, to inculcate the lessons of international peace by arbitration and disarmament, and for the benefit and enjoyment of the people..."

**PERSONNEL CONSTRAINTS**

- 1 FTE's Perm. (positions)
- 9 FTE's Temp. (positions)

37% FTE's devoted to interpretation.

**TYPES OF EDUCATIONAL PROGRAMS OFFERED**

- On-site Resource Oriented
- Off-site
- Other - Thematic orientation video for schools

**GRADE OF EDUCATIONAL PROGRAMS**

- 3rd - Post-High

**CURRICULUM INCORPORATION**

Programs were not developed to incorporate curriculum of the state and local school district curriculum.

**COOPERATING AGENCIES/JOINT PROGRAMS**

- none

**PROGRAM TITLES**

- Battle of Lake Erie Video - age 10 and up
- War in the Old Northwest (slide program/off-site)
- On-site talks and demonstrations

One program is on-site, the other two are off-site.

**EVALUATION**

Provide feedback/critique forms to group leaders.

**FORMAL GROUP ON-SITE VISITATION**

71 groups including 3,692 students visited the site in 1990. Of these, 66 groups received formal education programs.

School visitation is drawn from over 10 counties.

**RECENT ACHIEVEMENTS**

Acquisition of a 25 minute video about the battle of Lake Erie. This video was produced by a Cleveland Public T.V. station for regional programming. It is sent to all schools who notify the park that they are planning to visit.
Pipestone National Monument was established on August 25, 1937 (50 Stat. 804). The enabling legislation delineated a two-fold purpose: (1) to preserve and manage the ethnological, historical, archeological, and geological resources of the area for the benefit and enjoyment of all; and (2) to manage the pipestone quarries so as to provide the American Indian free access to the pipestone quarry, and secure pipestone for carving articles relating to his culture.

### Personal Constraints

<table>
<thead>
<tr>
<th>4 FTE's Perm. (positions)</th>
<th>3 FTE's Temp. (positions)</th>
</tr>
</thead>
</table>

34% of FTE's devoted to interpretation.

### Types of Educational Programs Offered

- On-site Resource Oriented
- Off-site
- Teacher Workshop
- Other - Cultural Demonstrations

### Grades of Educational Programs

- PS - Post-High

### Curriculum Incorporation

Programs were not developed to incorporate curriculum of the state and local school districts. Schools, however, have started to incorporate materials from Pipestone’s program into their units.

### Cooperating Agencies/Joint Programs

Informal cooperation with local historical museum in scheduling groups.

### Program Titles

- **Off-site**
  - Prep. Trail Worksheet for teachers
  - Prep. materials from Keepers of the Earth
  - Bio Diversity Teachers Workshop
  - Earth Day Program
  - Film loan

- **On-site**
  - Slide program
  - Drill demonstration
  - Cultural demo
  - Videos

### Evaluation

On-going discussions with teachers. They are encouraged to adapt prep materials to their particular grade level.
FORMAL EDUCATION ON-SITE VISITATION

61 groups including 798 students visited the site in 1990. Of these, 98% receive formal education programs.

School visitation is drawn from over 18 counties.

RECENT ACHIEVEMENTS

Trail worksheet has been effective with some school groups in slowing down the pace so that more information is absorbed.

Contact with cultural demonstrators (pipemakers, beaders, etc.) by school groups is a positive aspect of the total program, but difficult to measure because groups tend not to visit successive years.

EXPECTED CHANGES

Museum rehabilitation will enable Pipestone to utilize museum exhibits in education programs.
### PICTURED ROCKS
#### PIRO

#### LEGISLATIVE MANDATE
On October 15, 1966, the 89th Congress passed Public Law 89-668 authorizing establishment of the Pictured Rocks National Lakeshore. It was clearly the intent of the Congress that the National Park Service manage and develop Pictured Rocks National Lakeshore "...in order to preserve for the benefit, inspiration, education, recreational use, and enjoyment of the public, a significant portion of the diminishing shoreline of the United States and its related geographic and scientific features."

---

#### PERSONNEL CONSTRAINTS

<table>
<thead>
<tr>
<th>5 FTE's Perm. (positions)</th>
<th>6 FTE's Temp. (positions)</th>
</tr>
</thead>
</table>

13% FTE's devoted to interpretation.

---

#### TYPES OF EDUCATIONAL PROGRAMS OFFERED
- On-site Resource Oriented
- Off-site
- Custom Designed Programs
- Girl Scout Leader Training

---

#### GRADES FOR EDUCATIONAL PROGRAMS
- PS - 6th grade
- 9th grade

---

#### CURRICULUM INCORPORATION
Two programs have been developed to incorporate curriculum set by the schools. These include an out-reach 9th grade science program on acid precipitation, and a multi grade science program on water quality.

Teachers and school administrators did not assist in developing or reviewing these programs, but PIRO hopes to utilize these resources in the near future.

---

#### COOPERATING AGENCIES/JOINT PROGRAMS
PIRO works with the U.S. Forest Service, U.S. Fish and Wildlife Service to provide cooperative training sessions for teachers.
<table>
<thead>
<tr>
<th>PROGRAM TITLES</th>
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<tbody>
<tr>
<td>Dynamic Critters (K-1) - How we and other animals adapt to the rigors of the seasons.</td>
</tr>
<tr>
<td>Actors in the Play (2-3) - Examines many eras of regional history to learn about the indians, fur traders, voyageurs, lumberjacks, etc. who left their mark on the land.</td>
</tr>
<tr>
<td>What Comes Up Must Come Down (4-6) - A variety of media relates the concern about the quality of air we breathe, the effects of acid and toxic deposition on our lands, and how these challenges are linked to our current lifestyles.</td>
</tr>
<tr>
<td>Your National Parks (5-12) - Develop individual programs that augment teacher’s instructional units that deal with any NPS area’s story.</td>
</tr>
</tbody>
</table>

| EVALUATION |
| Feedback/critique forms provided to group leaders. |

| FORMAL EDUCATION ON-SITE VISITATION |
| 10 groups including 200 students visited the site in 1990. Primary users are 4th - 6th grade and PS groups. |
| School visitation is drawn from 3 counties. |

| EXPECTED CHANGES |
| Hope to serve far greater numbers of students in primarily 4-6th grade levels. |
The St. Croix National Scenic Riverway was created by Act of Congress in 1968 and the Lower St. Croix National Scenic Riverway was created by Act of Congress in 1972. Legally, and for development and land acquisition purposes, they are separate units of the National Park System. However, for administrative purposes, they are managed as a single unit -- the St. Croix National Scenic Riverway.

### Personnel Constraints

<table>
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<tr>
<th>4 FTE's Perm. (positions)</th>
<th>4 FTE's Temp. (positions)</th>
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</table>

13% FTE's devoted to interpretation.

### Types of Educational Programs Offered

- On-site Resource Oriented
- Off-site
- Special Programs

### Grades for Educational Programs

- K-12th grade

### Curriculum Incorporation

Programs have not been developed to incorporate curriculum of state and local school districts.

### Cooperating Agencies/Joint Programs

St. Croix works with Wisconsin Interstate Park, Minnesota Interstate Park, and a WI Fish Hatchery to present programs.

### Program Titles

- Human Use of River
- Logging and Fur Trade

### Evaluation

No formal evaluation process.

### Formal Group On-Site Visitation

Approximately 20 program days including over 800 students.

4th graders represent the largest percentage of students.

### Expected Changes

Development of a curriculum based educational program has begun, and parts of this program are expected to be in place by the fall of 1991.
<table>
<thead>
<tr>
<th>SCOTT'S BLUFF NATIONAL MONUMENT</th>
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<td>SCBL</td>
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**LEGISLATIVE MANDATE**

Scotts Bluff National Monument was established by presidential proclamation (1547-41) on December 12, 1919, by President Woodrow Wilson. It was to be administered in accordance with the National Park Service Act of 1916.

**PERSONNEL CONSTRAINTS**

| 4 | FTE's Perm. (positions) | 5 | FTE's Temp. (positions) |

17.7% FTE's devoted to interpretation.

**TYPES OF EDUCATIONAL PROGRAMS OFFERED**

- On-site Resource Oriented
- Off-site

**GRADE OF EDUCATIONAL PROGRAMS**

- PS - 6th grade

**CURRICULUM INCORPORATION**

Programs were not developed to incorporate curriculum of the state and local schools.

**COOPERATING AGENCIES/JOINT PROGRAMS**

- none

**PROGRAM TITLES**

- Oregon Trail - 9-11 yrs.
- Indian Life - PS-K
- Indian Lore - 12 yrs.
- Ecology - 7-9 yrs.
- Showing of "Cook Collection" - 9-11 yrs.

**EVALUATION**

- No formal evaluation process.

**FORMAL GROUP ON-SITE VISITATION**

62 groups including 585 students visited the site in 1990.

School visitation is drawn from 6 counties.

**RECENT ACHIEVEMENTS**

Pre-visit school packet written and mailed to groups. This packet contains a variety of activities from which the teacher can choose to fit his/her needs.
The Congress finds that certain outstanding natural features, including forests, beaches, dune formations, and ancient glacial phenomena, exist along the mainland shore of Lake Michigan and on certain nearby islands...that such features ought to be preserved in their natural setting and protected from developments and uses which would destroy the scenic beauty and natural character of the area. In order to accomplish this purpose for the benefit, inspiration, education, recreation, and enjoyment of the public, the Secretary of the Interior...is authorized...to establish...Sleeping Bear Dunes National Lakeshore..."

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<th>Personnel Constraints</th>
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<td>3 FTE's Perm. (positions)</td>
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12% of FTE's devoted to interpretation.

Types of Educational Programs Offered

- On-site Resource Oriented
- Off-site

Grades of Educational Programs Offered

- PS - Post-High

Curriculum Incorporation

Programs were not developed to incorporate curriculum of the state and local school districts.

Cooperating Agencies/Joint Programs

None

Evaluation

No formal evaluation process.
Receive informal feedback from teachers.

Formal Educational On-Site Visitation

Specific numbers unavailable.

119 groups received formal educational programs.

School visitation is drawn from 13 counties.
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<th>PROGRAM TITLES</th>
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<tr>
<td>On-site</td>
<td>Off-site</td>
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<tr>
<td>Dune Ecology</td>
<td>How animals prepare for winter</td>
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<tr>
<td>Old Indian Trail</td>
<td>Careers in the NPS</td>
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<tr>
<td>Great Lakes Maritime History</td>
<td>Wildflowers</td>
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<tr>
<td>Dune model talk</td>
<td>Pre-visit talk</td>
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<tr>
<td>Aral-Town that Vanished</td>
<td>Study Skins</td>
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<tr>
<td>Windy Moraine Trail</td>
<td>Animal Tracks and Role Playing</td>
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<td>Trail's End Trail</td>
<td>Southwestern Deserts</td>
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<tr>
<td>Pond Study</td>
<td>Map and Compass</td>
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<tr>
<td>Beaver</td>
<td>Recycling</td>
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<tr>
<td>Relief Map Talk</td>
<td>Birds</td>
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<tr>
<td>Rescue Demonstration</td>
<td>Nature Walk at School</td>
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<tr>
<td>Geology</td>
<td>Stereo photos</td>
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<tr>
<td>Trees</td>
<td>Fire Safety</td>
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<tr>
<td>Track Finding</td>
<td>Glaciers</td>
</tr>
<tr>
<td>Wildflowers</td>
<td>Snowshoe hike</td>
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<tr>
<td>Animals</td>
<td>Logging</td>
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<tr>
<td>Historic Boats</td>
<td>Snow Shelters</td>
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<td>Sensory Walk</td>
<td>Outdoor Detectives</td>
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<tr>
<td>Tour of Klett Farm</td>
<td>Tree ID</td>
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<tr>
<td>Flora/Fauna: Human Influences</td>
<td>Native Americans</td>
</tr>
<tr>
<td>Map and Compass</td>
<td>Animal Adaptations</td>
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<tr>
<td>Nature in Winter</td>
<td>Wildlife</td>
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<table>
<thead>
<tr>
<th>RECENT ACHIEVEMENTS</th>
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<tbody>
<tr>
<td>Developing a series of programs for winter field camps in cooperation with local schools.</td>
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<tr>
<td>Development of a series of programs on subject matter requested by teachers and geared to a specified grade.</td>
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</table>
**VOYAGEURS NATIONAL PARK**

**VOYA**

### LEGISLATIVE MANDATE

As stated in Public Law 91-661, "Voyageurs National Park preserves for the inspiration and enjoyment of present and future generations, the outstanding scenery, geological conditions, and waterway system which constituted a part of the historic route of the voyageurs who contributed significantly to the opening of the Northwestern United States." (84 Stat. 1970)

### PERSONNEL CONSTRAINTS

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<th>FTE's Perm. (positions)</th>
<th>FTE's Temp. (positions)</th>
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8% FTE's devoted to interpretation.

### TYPES OF EDUCATIONAL PROGRAMS OFFERED

- On-site Resource Oriented
- Off-site
- Custom Designed Programs

### GRADES OF EDUCATIONAL PROGRAMS OFFERED

- K- Post-High

### CURRICULUM INCORPORATION

Programs were not developed to incorporate curriculum of the state and local school districts.

### COOPERATING AGENCIES/JOINT PROGRAMS

Voyageur National Park staff function as guest speakers to present resource management programs at the Minnesota Historical Society sites.

### PROGRAM TITLES

No specific titles -- several activities from the Bio diversity Curriculum, each individualized to specific age groups.

Approximately 80% of programs are on-site.

### EVALUATION

Measure learner outcomes with post activity quizzes and provide feedback/critique forms to group leaders.

### FORMAL EDUCATION ON-SITE VISITATION

33 groups including 595 students visited the site in 1990. Of these, all groups received formal education programs.

Visitation is primarily from 3-6th graders, with 4-6th graders sharing the largest numbers.

School visitation was drawn from 2 counties.
In 1991, VOYA will be offering five hour environmental education programs aboard the concessioner owned and operated "Pride of Rainy Lake." Topics will include beaver and eagle ecology, Ojibwa culture and other resource management techniques practiced at the park.
**WILLIAM HOWARD TAFT NATIONAL HISTORIC SITE**

**WIHO**

**LEGISLATIVE MANDATE**
The William Howard Taft National Historic Site was authorized by Public law 91-132, dated December 2, 1969, to: "preserve in public ownership historically significant properties associated with the life of William Howard Taft."

**PERSONNEL CONSTRAINTS**

<table>
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<th>2 FTE's Perm. (positions)</th>
<th>2 FTE's Temp. (positions)</th>
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43% FTE's devoted to interpretation.

**TYPES OF EDUCATIONAL PROGRAMS OFFERED**

- On-site Resource Oriented
- Other - Special House Tours

**GRADES OF EDUCATIONAL PROGRAMS**

- PS - Post-High

**CURRICULUM INCORPORATION**

Programs were not developed to incorporated curriculum of the state and local school districts.

**COOPERATING AGENCIES/JOINT PROGRAMS**

The Taft NHS staff works with the Cincinnati Historical Society. Organized tours of the city for school children make their only stop at the Taft birthplace for a brief tour.

**PROGRAM TITLES**

- House Tours

**EVALUATION**

No formal evaluation process.

**FORMAL EDUCATION ON-SITE VISITATION**

67 groups including 2,344 students visited the site in 1990. Of these, all received formal educational programs. The largest number of visitors came from the 4th grade.

School visitation was drawn from 4 counties.

**RECENT ACHIEVEMENTS**

School program currently being revamped to a program-based rather than tour-based format. Schools are being contacted in the Cincinnati area and asked to participate. A new school program will be in place by the autumn of 1991.
### LEGISLATIVE MANDATE
Wilson's Creek National Battlefield was created by Congress on April 22, 1960, after much local interest to preserve the site. The act provided for authority and funds to acquire land, and an overall purpose of the park..."The lands...shall be set aside as a public park for the benefit and enjoyment of the people of the United States..."

### PERSONNEL CONSTRAINTS
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<th>3</th>
<th>FTE's Perm. (positions)</th>
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<td>5</td>
<td>FTE's Temp. (positions)</td>
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27% FTE's devoted to interpretation.

### TYPES OF EDUCATIONAL PROGRAMS OFFERED
- On-site Resource Oriented
- Off-site
- Other - Continuing Education

### GRADES OF EDUCATIONAL PROGRAMS
- 5th, 8th, 11th, and Post-High

### CURRICULUM INCORPORATION
Programs were not developed to incorporate curriculum of the state and local school districts.

### COOPERATING AGENCIES/JOINT PROGRAMS
None

### PROGRAM TITLES
- General Education Visit - visitor center & battlefield tour
- Continuing Education - civil war subjects for credit
- Intro to Wilson's Creek

First two are on-site and the last is off-site.

### EVALUATION
No formal evaluation process.

### FORMAL EDUCATION ON-SITE VISITATION
Approximately 125 groups including over 8,000 students visited the site in 1990. Of these 10-20 received formal education programs.

Majority of formal group visitation is made up of 8th graders.
### RECENT ACHIEVEMENTS

- 1986 Print education guide
- 1991 Begin to incorporate curriculum into programs
  - Reprint updated education guide
  - Participate with "Education Week" and offer special programs

### EXPECTED CHANGES

- Increased use by schools.

- More reliance on inservice/teacher workshops to handle increased use.
Section Three: Examples of Evaluation Instruments
FORT SCOTT NATIONAL HISTORIC SITE

We are evaluating our "Life on the Frontier" program. We would appreciate your comments and suggestions concerning your visit to Fort Scott National Historic Site.

School Name (optional) ____________________________

Grade level of students __________________________

1. What did you like about our "Life on the Frontier" program?

2. This year, included in your packet, was a History Hunt additional activity. This material covered the buildings not included in the "Life on the Frontier" program. Was this material useful and did your group have time to find the answers for the questions?

3. We strive to add variety to our program from year to year, but we can only offer four stations. What new stations or themes for the stations, would like to see in the future?

4. Was your group able to see and hear adequately? YES_____ NO_____ If no, please explain.

5. Unfortunately the Sutler Store had to be relocated this year. The items range from $.20 post cards to $7.50 cannons. What sales item do you suggest that would fit our time period in history.

6. Were the employees and volunteers pleasant, professional and helpful during your visit?

Thank you for your time and cooperation.

Please stamp and return the questionnaire in the enclosed envelope.
TEACHER EVALUATION

SECTION I - TEACHER BACKGROUND

1. How would you improve this section?

2. Was the material appropriate for your needs? If not, what can we do to improve the material?

SECTION II - CLASSROOM - PRE-VISIT ACTIVITIES

1. How could we improve these activities?

2. Were the activities appropriate for your needs? If not, how can we change them to suit your needs?

3. Please suggest additional activities and ideas we could include in this curriculum.

SECTION III - GEORGE WASHINGTON CARVER NATIONAL MONUMENT - ON-SITE ACTIVITIES

1. How could we improve the quality of your visit to the monument?

2. Evaluate the usefulness of the preparatory material included in this section for your site visit. Please suggest any additional information you would like to see to help plan your site visit.

3. Evaluate the services you received at the monument. Was the staff helpful, the facilities adequate?

SECTION IV - CLASSROOM - POST-VISIT ACTIVITIES

1. How can we improve these activities?

2. Were the activities appropriate for your needs? If not, how can we change them to suit your needs?

3. Please suggest additional activities or ideas to include in this curriculum.
We would like your input on your visit to Homestead National Monument. Please fill out this survey and return it in the attached envelope. With your help, we hope to make next year's Prairie Appreciation Week even better!

Teacher's Name: ___________________________ Phone #: ______________

School: ____________________________________________

Grade Level: ___________ Group Size: _____________________

Name of Ranger Conducting Activities: ________________________________

1. Where did you learn about Prairie Appreciation Week activities at Homestead?

2. Were the activities suitable for your group's grade level? Suggestions?

3. Which activities were enjoyed the most? the least?

4. Did you receive a pre-visit packet?

5. Did you use the packet in the classroom?

6. How can we make the pre-visit packet more useful?

7. Please add any additional comments that you think would improve next year's program.
JEFFERSON NATIONAL EXPANSION MEMORIAL
MUSEUM EDUCATION PROGRAM

TEACHER EVALUATION

Please take a few moments to complete the form below. Please fold, staple, and stamp. The address is already printed on the back.

Program title ___________________________ School _______________________

Date of Program __________________________ Grade ______________________

Did you find the reservation system satisfactory?

Did you find the pre-site material we offer helpful?

Did the program meet your expectations? Why? or Why not?

How were the curriculum guidelines for your grade level reinforced through this program?

What types of student participation were offered in this program and did you find it satisfactory?

Were your students stimulated to explore the topic further?

How might the program be improved?

Would you recommend this program?

How would you rate the program?

poor fair good excellent

We appreciate your feedback. Thank you for helping to improve our programs.
DATE: ______________________

TEACHER EVALUATION

PROGRAM TITLE: ____________  PROGRAM SPONSOR: J.H.E.M.

SCHOOL: ____________  TEACHER: ____________

NUMBER OF STUDENTS: ____________  GRADE: ____________

PLEASE COMPLETE THE FOLLOWING. YOUR FEEDBACK WILL HELP US MAINTAIN THE HIGH QUALITY OF OUR PROGRAMS. THANK YOU.

1. Did the program meet your expectations? Why or why not? ____________

2. How well do you feel the presenter accomplished her/his goals? ____________

3. Were your instructional goals reinforced through/by the program? ____________

4. Did you gain information that will be helpful in future class activities? What? ____________

5. Was the program interesting for you and your students? ____________

6. How did your students respond to the materials/presenter? ____________

7. Was the material/information at their level? ____________

8. Did the program stimulate your students to explore the topic further? ____________

9. What did you like most about the program? ____________
STUDENT EVALUATION

PROGRAM SPONSOR: JEFFERSON NATIONAL EXPANSION MEMORIAL

PROGRAM TITLE:

SCHOOL: ___________ TEACHER: ___________

1. What did you learn from this program?

2. What did you like the most about this program?

3. What did you like the least about this program?

4. Would you like to participate in this program again? Why or why not?

5. Additional comments:
December 11, 1990

Dear Teacher:

The Fifth grade programs and associated materials are designed to involve students in exercises of give and take, and in a thought process regarding Mr. Lincoln and his Springfield environment. Considering, evaluating, and contributing should be the students program goals. Please help us monitor the programs. Take a moment to complete the form below and give it to the ranger at the Visitor Center desk.

Thank you,

Judith Winkelmann
School Program Coordinator
Lincoln Home National Historic Site
LINCOLN HOME
TEACHER-EVALUATION

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<tr>
<th></th>
<th>POOR</th>
<th>FAIR</th>
<th>GOOD</th>
<th>VERY GOOD</th>
<th>EXCELLENT</th>
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<td>Content</td>
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<td>THEATER PROGRAM:</td>
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Dear Teacher,

Thank you for participating in our Educational Outreach Program. To better serve the needs of the area school curriculums and to improve our education programs, please complete the following program evaluation form. Please give us an honest critique of the program that was presented and comments on how we may improve our outreach programs so that we may better meet the needs of your teaching objectives. Please return the completed form in the stamped envelope provided by the ranger. Thank you for assisting us with your feedback.

School: _______________________________________________________________

Teacher: _______________________________________________________________

Grade: ______________________________________ Date: ____________________

Pre and Post Program Activities

Did you use any of the pre-program activities?

All of them _____ Some of them _____ None of them _____

Did you find the pre-program activities helpful in preparing the students for this topic? YES _____ NO _____

Can you think of any other activities that you would like to see designed to be included in the packet? Please describe any specific pre-program activities that you liked or disliked and why.

________________________________________________________________________

Will you use any of the post-program activities to help reinforce ideas?

All of them _____ Some of them _____ None of them _____

Which activities would be best suited for teacher follow up?

________________________________________________________________________
OZARK TEACHER EVALUATION

Program Presentation

Do you feel that the goals and objectives stated in the teacher packet were met in this program? YES ___ NO ___

If not, why? ____________________________________________________________________________

Did this program/topic stimulate the interest of the students? ________________

What do you feel were the strong points of this presentation? _____________________________

How might the program/presentation be improved? If you were going to present this program what material would you include or delete from its content? ___

Do you feel that this program topic is justified? Would you repeat this program and presentation to another class? ____________________________________________________________________________

What other program/topics would you like to see developed by the National Park Service as an educational outreach program? _____________________________

At what time of the school year would this program best fit into your curriculum schedule? ____________________________________________________________________________

Would you like to have an educational outreach program expand to include a class visit to Ozark National Scenic Riverway to help reinforce the educational objectives of these programs? ____________________________________________________________________________

Was the teacher packet information helpful? ______________________________

Any additional comments or suggestions? ____________________________________________________________________________

THANK YOU FOR YOUR TIME AND EFFORT IN COMPLETING THIS EVALUATION.
Dear Teacher:

To be able to evaluate the effectiveness of our school outreach programs, we need your assistance. Please take a few minutes to respond to the following questions. Your candid evaluation of our staff and program content will help assure quality programming in the future.

1. Was the Ranger punctual and well prepared for the activity?
   Yes ___ ___ ___ No

2. Did the Ranger exhibit confidence and knowledge of the program subject?
   Yes ___ ___ ___ No

3. Was he/she able to establish a lasting rapport with the students which maintained their interest?
   Yes ___ ___ ___ No

4. Was the level of the subject matter appropriate for your students age?
   Yes ___ ___ ___ No

   Was the program length appropriate?
   Yes ___ ___ ___ No

   Was the program organized in a logical order which the students were able to follow?
   Yes ___ ___ ___ No

5. Did the program augment or facilitate a portion of your specific curriculum?
   Yes ___ ___ ___ No

6. Are there other program topics you would like for us to offer on a continuing basis?
PICTURED ROCKS
TEACHER EVALUATION

7. Do you have a need for or interest in field trips to the Lakeshore which would respond to your curriculum needs?

8. Were the handout materials helpful and/or appropriate?
   Yes ___ ___ ___ No ___ ___ ___ 

9. Thinking in a "brainstorming" mode, in what other ways could the Lakeshore staff be of assistance to your class?

10. Other comments or specific notes on the above questions.

Thank you.

Ray Brende
Chief, Interpretation and Visitor Services
APPENDIX D

Curriculum Incorporation Outline
APPENDIX D

Using Curriculum in Program Planning and Development
from *Programming for School Groups: An Interpreter’s Guide*

**Suggested steps for planning a curriculum-based program:**

1. What is your park’s mandate? Its themes? Think about what makes your site unique in the local area. Why would schools want to visit?

2. Think about the best experience you have had at your site with a school group. What was it that interested them? Before you get to the curriculum, what is naturally interesting to children at your site?

3. Do an inventory and list the resources of your site in three categories: the themes and stories which the park currently interprets and possibilities suggested by the mandate, the resources and materials available to carry out the interpretation with students and the strengths and particular interests of staff members.

4. Analyze the visitation demands for your site with particular attention to school visitation. Look at your statistics for who visits. Who is coming, and when do they come?

**Now:**

5. Find a curriculum guide from a local school system. Make sure to obtain the guide for the subject area which complements the park’s strengths for a specific audience.

6. Look through the guide for suggestions of where the park themes will fit in. Think about the content areas which are listed. Does the park cover any of the themes or content goals? Would a visit to the park cover any of the skill areas?

**Once you’ve taken these steps, try the following:**

* Develop some potential program outlines using the themes, goals and objectives format from interpretive programs. Focus on the needs of one particular student audience.

* Talk to teachers. Call a local school and ask to talk to the curriculum supervisor in your area or ask the principal to suggest a teacher who might be willing to meet with you. Try out your ideas. You might want to invite a group of teachers to the park to pilot your program.
* Ask the teachers what kinds of materials you could provide to them for their use in the classroom. Start the discussion with a list of those materials you used to develop the program.

* Ask teachers who come to the program, what kinds of activities they do in their classroom before coming to visit. Which books are they reading with their students? Look at textbooks and trade books. Use the information in your program planning. Share good ideas with other teachers.
APPENDIX E

*ACT: A Process for Bringing Schools to the NP's*
Assessment of Themes

Curriculum Review

Talk to Teachers

A PROCESS FOR BRINGING SCHOOLS
TO OUR NATIONAL PARKS

Written by Nalani McCutcheon
with support from Warren Bielenberg, Michael Gross
and the University of Wisconsin-Stevens Point College of Natural Resources
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ACKNOWLEDGEMENTS

Hearty thanks must be extended to all the contributors to Programming for School Groups: An Interpreter's Guide for providing the base document for this handbook. Special thanks go to Candance Lee Heald and Kathleen Tevyaw whose work was drawn on heavily.

The interpretive staff at Harry S Truman National Historic Site, St. Croix National Scenic Riverway and Pictured Rocks National Lakeshore have been crucial in this undertaking. Their hard work, input and enthusiasm have made this handbook possible. Especially helpful were Regina Jones-Underwood, Connie Potratz-Watson, Terry O'Halleran, and Gregg Bruff.

This handbook would not be possible however, without the support and encouragement of Warren Bielenberg, Chief of Interpretation for the Midwest Region as well as other Regional support including Tom Richter, Connie Burns, and Shirley Wallace. I am forever grateful!

Eastern National Park and Monument Association provided crucial funding for this project. Without their financial support, this endeavor would have been impossible.

This document has been guided through its development by Dr. Michael Gross, Dr. Richard Geesey, Dr. Joseph Passineau, and Dr. Richard Wilke from the University of Wisconsin-Stevens Point. Their personal guidance and university support were vital to this project.
INTRODUCTION

The National Park Service established an Education Task Force in 1989 to evaluate the Service's educational programs and to develop recommendations to improve and increase educational programs throughout the Service. The Task Force recognized that one reason many earlier education programs had failed was because a generic curriculum program was developed which failed to meet the curriculum needs of user schools. [Another reason for failure was program development from the top rather than from the grass roots.] One of the recommendations therefore, was that a "coordinated effort be made to provide formal and informal education programs for children and adults through the use of existing programs, new programs, partnerships and the integration of NPS research with local curriculum."

In principle, this idea of meshing programs with local curriculum seems an easily implemented solution. However, many interpreters lack sufficient knowledge of formal education systems to approach this task with total confidence. The National Park Service developed Programming For School Groups: An Interpreter's Guide (PFSG) as a result of a National training workshop designed by Kathleen Tevyaw.

Although PFSG is very useful, it was felt that some interpreters could use more guidance in the actual curriculum incorporation process. From this need, a project was funded through Eastern National Park and Monument Association which enabled the outlined curriculum incorporation process to be implemented at three parks, evaluated, and the results used to develop a companion document that could lead interpreters through the process. This manual is the result of that project and was developed after using PFSG to develop curriculum based programs in three areas during 1991. These three areas were selected based on the potential for educational programs at each site, and for their ability to represent the diversity of purposes and resources of National Parks in the Midwest Region. PFSG presents the theory and ACT: Curriculum Incorporation in the National Park Service (ACT) provides examples. It is not intended that each unit follow this recipe exactly, but rather, ACT looks at how the process has been used and offers ideas on how it might be applied to your site.
PART ONE: HISTORY OF EDUCATION IN THE NPS
HISTORY OF EDUCATION IN THE NATIONAL PARK SERVICE

Although education was considered a component of the Park Service mandate from its inception in 1916, System-wide formal educational programs did not begin until 1968.

In the late 1960's the visitation to National Park Service units reached phenomenal proportions. Visitation had escalated from 6 million in 1942, to 33 million in 1950, to 72 million in 1960. These great numbers presented the parks with many problems; trampled meadows, packed soil, and an increased crime rate. The public was literally loving the parks to death through over or inappropriate use. The Director of the National Park Service, George Hartzog, Jr. suggested that it was necessary to get to the nation's people and raise their environmental consciousness before they arrived at the park. Thus, in 1968, riding on the wave of a nationwide focus on environmental quality, environmental education was introduced into the National Park Service.1

Director Hartzog chose the Lincoln Boyhood National Memorial as the site to unveil a new series of programs that he called "A Cooperative Program for Environmental Conservation". In a memorandum distributed on May 1, 1968, two months following his initial announcement, Hartzog stated:

"The concept of total environment includes man and all of his works. His history is in effect an outgrowth of environment at earlier periods. The natural world and man's cultural heritage join in support of the present environmental education concept." 2

The programs Hartzog introduced included the National Environmental Study Area (NESA), National Environmental Education Development (NEED), National Environmental Education Landmark, and Students Towards Environmental Participation (STEP). These were designed to develop integrated curriculum materials for use in the schools and establish environmental study areas within park units where these curriculum materials were to be "developed and carried on in cooperation with existing school systems."

In a memorandum describing the program to establish National Environmental Study Areas, known as NESA's, Hartzog defined an environmental study area as:

"...a land, or land and water, area whose natural, historical or non-nature characteristics are effectively combined with an organized study program to provide an understanding of the total environment and the individual's relationship to it." 3

The objectives set for NESA were: a) to introduce the student to his total cultural and natural environment, past and present, and help him realize that he is a part of it; b) to develop in the student an understanding of how man is using and misusing his resources; c) to provide an opportunity for the student to work directly with environmental problem solving; and d) to equip the student to be a responsible member of the world that he is shaping and that is shaping him.4
With a focus on site specific programming, areas in existing parks were designated NESA's if their programs complied with the definition of environmental education found in the 1970 Environmental Education Act:

"The term 'environmental education' means the educational process dealing with man's relationship with his natural and manmade surroundings, and includes the relation of population, pollution, resource allocation and depletion, conservation, transportation, technology, and urban and rural planning to the total human environment." 5

Proposed NESA sites were evaluated by educators and resource managers to determine if they were located close enough to schools to make their use realistic for either classes or teacher workshops, if adequate facilities existed, if sites illustrated the impact of man, if the sites could withstand the considerable impact of regular use by classes, and if the sites possessed educational potential.

Once a NESA was established, materials and techniques were developed exclusively to take advantage of the unique potentialities of the site. In addition, national materials were provided and these included: A Teacher's Guide, A Guide for Planning and Conducting Environmental Study Area Workshops, Environmental Education/Facility Resources (a guide to all facilities throughout the nation currently providing environmental education), The Benchmark Project (educational tools made available to monitor changing environmental quality), and The Best of NESA reports (information about programs/activities taking place at NESA's nationwide). 6

The NESA program quickly evolved to include areas off park sites. These sites also had to meet the specific criteria designated for NESA sites. Sponsors of an area submitted application forms to the National Park Service along with samples of study materials used in ongoing programs. 7

The National Environmental Education Development Program, known by its acronym -- NEED, though established at the same time as NESA, did not focus on the site, but rather the materials. Designed by Dr. Mario Menesini, Research Specialist at the University of California - Davis, NEED was based on research in curricula theories and education methodologies of the time. Its aim was specifically to interrelate an individual with his ecological environment while engendering a personal sense of stewardship together with appreciation of and responsibility for that environment. 8 The program was sponsored by the National Park Foundation to generate curriculum-integrating materials for school grades K-8 and was designed to be multidisciplinary. Its life was short lived though, with material development ceasing in 1976. 9 Problems attributed to the program relate to the mandated nature of the curriculum. Many of the Park Service units major resources did not easily lend themselves to environmental education. Staff were untrained in this field and uncomfortable with the program. Those sites that were conducive to the program found it too general for their use. Though vestiges of the program still exist in current park programming, the NEED program is no longer widely used.

A third program was instituted in 1971 to accompany NEED and NESA. Known as NEEL
(National Environmental Education Landmark), this was designed to give high-level government recognition to those sites already encompassed in the NESA program that were deemed nationally significant with programs of exceptional quality. The reduced momentum of NEED led ultimately to the ceasing of NESA and NEEL designations.

The last major program to surface from this initial cooperative program was the STEP initiative (Students Toward Environmental Participation). Originating from the Southeast Region in 1971, the STEP program aimed at high school students.\(^\text{10}\) STEP strove for a kind of awareness that was not defined in specific knowledge about environmental problems, but an awareness that helped high school students learn to live in harmony with a natural world and within a human society.\(^\text{11}\) This awareness involved four tenants: awakening a sense of discovery, finding a sense of order, recapturing a childlike sense of wonder, and sharing a sense of place. After such an awareness was gained, STEP led to environmental action programs. These took the form of communicating to others an environmental understanding, making a commitment to help others develop an environmental ethic, and bettering environmental quality through direct involvement and action. Students served as Volunteers in the Parks (VIP's), monitored water quality and studied issues surrounding environmental legislation. STEP evolved from a regional level and was developing into a national scale when one of the major leaders of the program, Ray Gerdes, died suddenly. Momentum for the program was lost, and, coupled with administration reorganization, led to the demise of the STEP program.

All of these programs thrust the National Park Service into a new era of education, that of outreach beyond the park boundaries. The NPS was receiving a great deal of public support for its progressive outreach policies, but such an atmosphere was not bound to last. As William Everhard points out,

"The Park Service was never held in higher esteem than in 1972, the 100th anniversary of Yellowstone. A presidential Commission sponsored a series of commemorative events, and representatives from eighty-three nations paid homage to the first national park when they gathered at Yellowstone for a World Conference on National Parks. The U.S. Park Service was host to the 1,200 delegates, and Director Hartzog presided over the most estimable meeting of the world park community ever held. It was the last panoply of the Park Service. Less than two months later, having earned a spot on President Richard Nixon's personal list of enemies, Hartzog was summarily fired. Since 1972 the organization has passed through the most disquieting period of history. In a stretch of nine years it has had five directors, four of whom were fired. In an agency that had never known political manipulation and had received consistently impressive and tenured leadership, the rapid turnovers have had a paralyzing effect."\(^\text{12}\)

As a result of these political undertones, all outreach was cancelled -- funding for educational programs being essentially eliminated.

Generally recognized now as being too generic to be used in established school curriculum at
the local level, and lacking appropriate funding, these national curriculums failed quickly. By the end of the 1970’s, it was apparent that new education methods were necessary. However, the federal administration in the early and mid-1980’s failed to support such endeavors with appropriate funding. In fact, the entire Park Service faced further budget cuts. In many areas, interpretive and educational programs were eliminated as the units struggled to keep their doors open.

A change in administration in 1988 meant a change in philosophy. Claiming himself the "Education President", President George Bush attempted to symbolize the reawakening to the needs of education throughout the nation. Bush set forth new criteria for educating the nation’s youth, and Secretary of the Interior Manual Lujan targeted this special initiative of the administration in the Department of the Interior. Lujan established Excellence in Education as a key area the Department of the Interior will pursue during this administration. The National Park Service developed The Interpretive Challenge, a document that presented a strategy to address and resolve five areas of concern -- professional excellence, evaluation, education, program integration, and media. Specific goals and the actions needed to attain them were presented. It is as a result of this document that the Park Service’s Education Task Force was formed and its initiatives developed.
PART TWO: THE CURRICULUM INCORPORATION PROCESS
THE CURRICULUM INCORPORATION PROCESS

Assess your sites themes, legislative mandates and management goals
Inventory resources available and staff interest in the above
Analyze visitation demands

Curriculum Review
Develop potential programs

Talk with teachers
Preview idea

There are three major players in the development of an educational program: the interpretive staff, school administrators and individual teachers. In order for a program to be successful, it must meet the needs of all the major players. If the program doesn’t accomplish the park’s legislative mandate or further its management goals, it won’t be offered. Likewise, if the program doesn’t accomplish the objectives of the school (whether these are academic, social or recreational) the administration won’t support it. Finally, if the program doesn’t address the needs of individual teachers (whether these are academic, logistic, or recreational) they will not opt to have their classes participate. If a program is developed that neglects even one of these components, the possibility is great that it will fail.

That being said, interpreters face a difficult challenge. Interpreters will obviously be well versed in the themes, legislative mandates and management goals of their unit. However given their diverse background, there is no guarantee that an interpreter will have any formal training in education. Thus they may feel lost in the maze of school administration, curriculum development, and general public school logistics. In addition, interpreters may not see the potential range of programming that can accomplish Park goals as well as academic concerns.

This handbook aims to serve as a road map toward developing curriculum based programming. Each site example has similarities and differences. It is hoped that this diversity is precisely what will make this document of value to all units.
THE CURRICULUM INCORPORATION PROCESS

STEP ONE: Assessing Site Themes and Mandates
STEP ONE: Assessing Site Themes and Mandates

Assess your site's themes, legislative mandates and management goals
Inventory resources available and staff interest in the above
Analyze visitation demands

It may seem at first glance that this is a step easily skipped. Most interpreters work with and within their site's themes, legislative mandates and management goals every day. However, there is a tendency to develop "tunnel vision" and limit your programming options to the type done in the past or to those that are obviously connected. It is important to pull yourself away from the situation and brainstorm what is the true latitude of the park's mission. What kinds of programs would fit under the themes that might be tried? How might your park's management objectives be accomplished through different kinds of programming? Are areas of your site's themes, as stated in the Statement For Interpretation, lacking in your program offerings for schools? Is it possible to address these themes with schools? Take some time for this step and let your mind wander.

Once you've thought about the possible options, what are your site's resources? Be sure to include natural, cultural, and historical resources (i.e. interpretive trails, waterfalls, vistas, geologically and archeologically rich areas, historical buildings and equipment, etc.) as well as human resources (diversity of interests/experience of staff and volunteers). How equipped are these resources for current use as well as the potential for increased usage? What resources does your park possess that are currently under-utilized by student populations? Why are they under-utilized, and would they be of interest to schools? What are the strengths and interests of the staff -- what areas do they enjoy most? What kind of time commitment is possible from each staff member/volunteer? Will the staff be able to fulfill the possible demand?

Finally, consider the visitor. Focus first on the general visitor, and then narrow in to school populations. It is probable that schools will be interested in visiting for the same reasons as general visitors -- but there may be particular features of the site that best fit one clientele or the other. What makes your site unique in the local area? Why do people want to visit? What areas within your site are most popular with visitors? How well can these sites absorb the current traffic flow? Can they withstand increased visitation? What sites are under-utilized by the public? Would it be advantageous to promote these areas to groups? Analyze visitation demands for your site over the past few years, both for general visitors as well as for organized school groups. Look at the demographics of visitors. Who is coming, from where, when, and for what purpose? Does the current visitation consist of all the audiences you are attempting to reach, or is it necessary to develop programs to attract a particular focus audience?
These questions are only a smattering of those you should consider. Use these questions to guide you through planning discussions that explore and encompass all the opportunities and limitations of your site.

Once you have completed this step, you should have a firm grasp of what your park can offer and what are the visitors' needs. With all these things floating in your head, it is time to move to Step Two. First, however, we will illustrate Step One at three areas.

**Example: Harry S Truman National Historic Site (HSTR)**

The Harry S Truman National Historic Site was established to "preserve and interpret for the inspiration and benefit of present and future generations the former home of Harry S Truman, thirty-third President of the United States." The main theme at the Harry S Truman National Historic Site is, as the title states, the historical interpretation of Harry S Truman's life and his family. This can include discussing politics, social aspects, family life, childhood, etc. It is mandated to preserve items relating to President Truman. As a result, all items are cared for by the curatorial staff and a primary management concern is visitor impact on the Truman Home and historic objects. Truman grew up in the Independence, Missouri area, so the area is rich in Truman related sites. As a result, although there is a wide range of interpretive possibilities surrounding the former president, a number of sites are competing on the same subject. It is necessary to focus and specialize on what makes HSTR unique among the many -- that being the home life of Truman.

HSTR is one of the smaller units in the National Park Service, consisting of the Truman Home, three neighboring houses and associated outbuildings. The Park Service maintains office space, visitor center and a bookstore in a building leased from the city of Independence. The only park property open to the public are the grounds and first floor of the Truman Home. Visitation to the house and grounds is limited to ranger-guided tours for which tickets are required. While on tours, visitors are asked to stay on a gray carpet leading through the area and not to touch anything.

The staff has access to the extensive collection of Truman artifacts, stored in a separate location. However these items are too valuable for use in public programming. These items serve as a resource for historical researchers and the interpretive staff. In discussions with the interpretive staff, it was apparent that they had a true love and respect for the character of the former president. They were a wealth of knowledge about his life in Independence. This area was of major interest to them.

Visitors to the Truman Home come from all over the United States, and most either have or plan to visit the Truman Library, a short distance away. The majority of school groups that visit the Home are from fourth grade classes, studying Missouri history, of which Harry S Truman plays...
a crucial role. A fair amount of junior high classes also visit -- studying Truman in relation to his presidency and the political conflicts of the time.

Example: St. Croix National Scenic Riverway (SACR)

The enabling legislation and the Wild and Scenic Rivers Act, gives the St. Croix National Scenic Riverway its major theme which is the story of the St. Croix and Namekagon rivers and their environments. This includes recreational use of the riverway, ecological aspects of the river system, historical aspects of the river, and commercial uses of the river.

The interpretive staff stationed along the corridor have a variety of interests -- primarily the ecological aspects of the river and the history (primarily logging) of the river. SACR has an exhibit and in its collection a variety of logging artifacts, recreational supplies including canoes, and a limited number of taxidermy specimens. Since the Riverway is comprised of a long, thin strip of land, no large campgrounds are located on park property. A relatively new but limited trail system is located along the river which receives minimal visitor use. Visitor information centers are found at four locations along the riverway. These are small, with limited auditorium facilities. During the summer season, in addition to on-site programs, interpretive programs are offered at off-site facilities at local state, county and city parks. Interpretive programs are also presented on commercial tour boats.

Visitors to the St. Croix come primarily from the Minnesota and Wisconsin area and are interested in recreating on the river -- canoeing, tubing, fishing, boating, etc. Few school groups visited the park, due to lack of space to accommodate large groups and few organized programs. Throughout the year, staff presented a limited number of off-site programs in the schools and cooperative programs with local state parks.

Competition includes numerous state parks and forests interested in the ecology and history of the river, as well potential competition from a proposed cultural center to be built near St. Croix Falls, which would focus on logging history of the riverway. A unit of the Ice Age National Scientific Reserve is also located nearby, its primary function being the education of the effects of glaciation on the area.

Example: Pictured Rocks National Lakeshore (PIRO)

Pictured Rocks National Lakeshore was established by Public Law 89-668 which directed the Park Service to "...preserve for the benefit, inspiration, education, recreational use, and enjoyment of the public, a significant portion of the diminishing shoreline of the U.S. and its related geographic and scientific features." Pictured Rocks National Lakeshore themes include cultural and natural history of the Great Lakes region. Furthermore, recreation opportunities were to be offered
to virtually all types of recreation seekers. Areas of emphasis include geology, wetland ecology, Native American culture, and maritime history.

The interpretive staff is small and though the areas of interest are diverse, lack of staffing makes a wide range of interpretive programs impractical at the present time. Located within the park are several visitor centers as well as a lighthouse which will be furnished in the appropriate time period and will be open to visitors upon completion.

Due to the diversity encompassed in the park land, Pictured Rocks National Lakeshore has numerous features to attract visitors. Several beaches, waterfalls, geologic sites, and trails are available for use by interpretive groups as well as individual visitors. A newly completed all weather boardwalk trail highlights the features of wetland habitats while providing access to physically disabled individuals.

The summer season at PIRO is fairly short -- from Memorial Day to Labor Day. During that time however, visitors from around the nation come to enjoy the Park. A study completed in the summer of 1984 showed that 55% of visitors surveyed came from Michigan. During the school year however, visitors are drawn from the local Upper Michigan area. Primary age group of students is 4th - 6th grades.
THE CURRICULUM INCORPORATION PROCESS

STEP TWO: Curriculum Review
STEP TWO: Curriculum Review

At this stage, it is important to have a quick review of the basics of curriculum. In its broadest sense, curriculum is a plan for the instruction of learners. One can think of a curriculum plan as being a road map the teacher uses to plan the route he/she will take to lead students from the first day to the end of the school year. The important sites of interest can be thought of as curriculum objectives and the route traveled is represented by instructional approaches used to meet those objectives.

Each school system has a curriculum plan under which it operates. This curriculum may be divided by subject areas or skill levels and will include the range of classroom subjects. Teachers use this as a guide to create a "working curriculum" which represents what is actually taught. [It is possible that this working curriculum does not correspond with the school system curriculum -- but that is an internal conflict over which NPS units have little control. That is why step three is so important.]

State Department of Public Instruction’s (DPI) also may have a state curriculum. It is this state mandate that guides the individual school system curriculum. When researching curriculum guidelines for your age of interest, it is helpful to consult both the state and local curriculum guides. This can be done by contacting the state DPI and school system’s district office. Most are available at no charge or nominal cost.

After you obtain curriculum guides -- allot enough time to adequately understand them. Curriculum plans can be fascinating -- and this stage is meant to spark connections between what could be done on-site at your park and objectives teachers are trying to accomplish in school.

As you look through the curriculum, note areas you think you could address at your site. Note what grades these objectives are geared for and try to rough out potential programs covering these concepts at the appropriate grade levels. Be as complete as possible in covering the objectives -- including possible pre-visit orientation activities and post-visit activities. Don't limit yourself to only standard areas such as science or social studies. Other objectives in geography, math, art, music, literature, and reading may just as easily be incorporated at your site. Let your imagination run wild for a while.

Once some ideas are roughed out, pull the reins in and polish it a bit. Spend some time thinking of logistics necessary for the program. How accessible is your proposed site to school buses? How long is the commute? How long could the program length be and still have the students back to school by the end of the day? Will the proposed site be able to handle the increased
traffic flow? Will large numbers of students disrupt the normal visitors enjoyment of the site? What provisions are available in case of inclement weather? Is the facility/program accessible to those with physical impairments? This doesn’t have to be planned out fully, but it is important to consider some of the basic points prior to moving to step three.

Example: Harry S Truman (HSTR)

Harry S Truman National Historic Site serves a variety of school districts with the largest visitation coming from schools in Independence, Blue Springs, and Kansas City, MO. The state of Missouri also has a curriculum entitled Core Competencies and Key Skills for Missouri Schools. These objectives are standard throughout the state and students are tested regularly during their program to determine if they have achieved objectives identified for their grade level. As a result, these objectives drive the curriculum of the local schools. Therefore, many of the components of each district’s curriculum are identical. Fourth grade was identified as the focus because of the emphasis placed on Missouri history at the fourth grade level. A sample of pertinent curriculum objectives is found on the following page.

After reviewing the curriculum plans of the three school districts, it was suggested that HSTR’s program incorporate some language arts, geography and social studies components. The park staff’s goals for school programs were to: (1) communicate the home life of Harry S Truman, (2) illustrate the comparisons between the Truman life and those of the visitors and, (3) communicate the need for preservation in a way that would encourage a greater respect for the Truman Home and its furnishings. After several hours of brainstorming, a tentative plan was put together to develop an educational package that included:

* A story (accompanied by comprehension questions) on Truman as a boy
* A geography activity that would illustrate the Truman sites in Independence
* A crossword puzzle to reinforce vocabulary in the story
* A slide show to illustrate the Home, its importance in Truman’s life, and its current role in Truman history.
* A trunk of period items to connect students’ current lives with Truman’s

This package could be used by the staff as an off-site pre-visit program, or the first four items could be sent to the school as a non-personal pre-trip package. (The trunk would only be used during ranger-led activities). Complete program plans can be found in Section III.
<table>
<thead>
<tr>
<th>Independence Public Schools</th>
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</thead>
<tbody>
<tr>
<td><strong>Reading/Language Arts</strong></td>
<td></td>
</tr>
<tr>
<td>1. Use contextual clues and/or dictionary to determine meanings of new words and the appropriate meanings of words with multiple meanings.</td>
<td></td>
</tr>
<tr>
<td>2. Recall from a passage or story such elements as setting, characters, sequence of events, and narrator.</td>
<td></td>
</tr>
<tr>
<td>3. Interpret and apply information from maps, charts, timelines, tables, and diagrams.</td>
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<tr>
<td><strong>Social Studies</strong></td>
<td></td>
</tr>
<tr>
<td>1. Interpret simple maps using knowledge of direction (N, NE, S, SE, etc.); legends, grid systems, and scales.</td>
<td></td>
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</tbody>
</table>

All of the above are included in the Kansas City curriculum. Reading/Language Arts #1, #2 & #3 and Social Studies #1 are Missouri Core Competencies that they are tested on at the end of Fourth grade.

<table>
<thead>
<tr>
<th>Kansas City Public Schools</th>
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<tbody>
<tr>
<td><strong>Reading/Language Arts</strong></td>
</tr>
<tr>
<td>1. Determine meaning of text by applying a variety of comprehension skills.</td>
</tr>
<tr>
<td>2. Reconstruct meaning and recall significant features by applying understanding of story/play elements, author's point of view, and narrative devices.</td>
</tr>
<tr>
<td>3. Develop understanding of life story through the reading and writing of contemporary biography, autobiography and personal timelines.</td>
</tr>
<tr>
<td>4. Recognize the function and use of special reference sources to locate and organize information in history and geography for retention or reporting.</td>
</tr>
<tr>
<td><strong>Social Studies</strong></td>
</tr>
<tr>
<td>1. Predict how one's life, experiences and observations might be different if one moved to another place.</td>
</tr>
<tr>
<td>2. Interpret and construct simple timelines.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Core Competencies and Key Skills for Missouri Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social Studies</strong></td>
</tr>
<tr>
<td>1. Contrast between (a) value judgements and (b) factual claims about events and people.</td>
</tr>
<tr>
<td>2. Identify people important to the history of Missouri; explain the challenges they faced and their achievements. (Note: people studied should include political leaders influential in the state's history, as well as other men and women of various ethnic groups who may serve as models of courage, social concern, and integrity.)</td>
</tr>
<tr>
<td>3. Identify and explain causes and consequences of events studied, and place them in correct sequence.</td>
</tr>
</tbody>
</table>

#1 is a competency that is tested at the end of Fourth Grade.

---

4 Sample Curriculum of School Districts Surrounding HSTR
Example: St. Croix National Scenic Riverway (SACR)

St. Croix National Scenic Riverway has the potential for providing programs for 8 to 12 school districts in two states. However, while piloting a new program it was thought best to focus on the 2 districts that were the closest to the Marshland Visitor Center. As a result, effort was made to contact Pine City, MN and Grantsburg, WI schools. Due to summer conflicts, only Grantsburg was able to cooperate initially.

Wisconsin does not have a state curriculum so only the Grantsburg district curriculum was examined. The state does however, have curriculum guides published by the Department of Public Instruction that provide some general insight on the overall educational goals of districts throughout the state. In the state curriculum guides, specific curriculum objectives are not addressed, however areas of emphasis for different grade levels are identified. Further program expansion, including curriculum of greater numbers of school districts will follow in future years.

A summary of applicable curriculum objectives for fourth graders in Grantsburg School’s are provided on the following page.

Based on analysis of this curriculum, a program on river ecology was developed. Components of this program included:

* pre-visit Web-of-Life program done off-site in the schools
* distribution of "Habitat News" newsletter reinforcing important concepts
* on-site program involving river mucking
* off-site post-visit reinforcement programs

The staff plan to work in the spring of 1992 to develop a logging program that addresses some of the curriculum objectives listed above. Complete program plans can be found in Section III.
<table>
<thead>
<tr>
<th><strong>Ecology</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Recognize that the sun is the greatest single source of energy in the ecosystem. (Develop)</td>
</tr>
<tr>
<td>2. Recognize that lower level populations must have a larger biomass than the populations of a higher level. (Introduce)</td>
</tr>
<tr>
<td>3. Recognize population size at 1 level in food chain causes changes in population of other members in that food chain. (Introduce)</td>
</tr>
<tr>
<td>4. Explain what environment is. (Develop)</td>
</tr>
<tr>
<td>5. Identify the causes and/or effects of water pollution. (Develop)</td>
</tr>
<tr>
<td>6. List ways water is used in certain environments. (Develop)</td>
</tr>
<tr>
<td>7. Identify environments which are likely to cause flooding or to be flooded. (Develop)</td>
</tr>
<tr>
<td>8. Construct a food chain when given a description of the eater/eaten relationship. (Develop)</td>
</tr>
<tr>
<td>9. Describe what might happen if one certain thing in a specific food chain is changed. (Develop)</td>
</tr>
<tr>
<td>10. Classify living organisms as producers, consumers, or decomposers. (Develop)</td>
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<thead>
<tr>
<th><strong>Zoology</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Tell how animal’s body parts are adapted to its needs for protection, getting food, and seasonal changes. (Develop)</td>
</tr>
<tr>
<td>2. Select those structures of animals which best suit them to performing a specific function. (Introduce)</td>
</tr>
<tr>
<td>3. Select animals most suited to live in certain environments. (Develop)</td>
</tr>
<tr>
<td>4. Identify food gathering processes and sources of food for different animals. (Develop)</td>
</tr>
<tr>
<td>5. Differentiate between carnivorous, herbivorous, and omnivorous animals. (Introduce)</td>
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<tr>
<th><strong>Map and Globe (Compare/Infer)</strong></th>
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<tbody>
<tr>
<td>1. Compare the methods and equipment used by logger’s today and those used by loggers 100 years ago. (Introduce)</td>
</tr>
<tr>
<td>2. Explain why seaports are important trade centers and how rivers are essential to them. (Introduce)</td>
</tr>
<tr>
<td>3. Describe some ways in which geography and ecology have affected culture. (Introduce)</td>
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</tbody>
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<table>
<thead>
<tr>
<th><strong>Wisconsin History</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Identify early Wisconsin explorers and their accomplishments. (Introduce, Develop, Master)</td>
</tr>
<tr>
<td>2. Describe Wisconsin’s early years of settlement and achievements both under the French influence and then British. (Introduce, Develop, Master)</td>
</tr>
<tr>
<td>3. List some obstacles that early Wisconsin settlers had to overcome. (Introduce, Develop, Master)</td>
</tr>
<tr>
<td>4. Understand how development of transportation has influenced the regions’ industrial growth both early years and today. (Introduce, Develop)</td>
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<thead>
<tr>
<th><strong>Wisconsin Geography</strong></th>
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</thead>
<tbody>
<tr>
<td>1. Identify main geographic regions, cities, mountains, and rivers. (Introduce, Develop)</td>
</tr>
<tr>
<td>2. Select the cause and effect for the development of water transportation. (Introduce)</td>
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<table>
<thead>
<tr>
<th><strong>Reading</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Choose main ideas; is able to use introduction, summaries, and readings to pick out the main ideas.</td>
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</table>
Example: Pictured Rocks National Lakeshore

Although Pictured Rocks National Lakeshore has the potential of reaching three counties, the primary target was on districts with easy access to the Sand Point area, and the Sandpoint Nature Trail, which was to be the focal point of the programs developed. This included Munising Public Schools and Dearton Public School. Both districts are in the process of revising their curriculum based on the state curriculum. Due to this information, the program development was based on the state of Michigan's curriculum guide. Objectives deemed pertinent to the wetland theme (which was the primary objective of the park) are found on the following page.

Based on these curriculum objectives, three different programs were developed to address the grade K-1, 2-3, and 4-5 audience. It was determined that the focus of the programs would be wetlands, utilizing the Wetland Trail located in the Park. The grade K-1 program provides an awareness of wetlands. The grade 2-3 program focuses on components of a wetland and adaptations of animals that live in wetlands. The grade 4-5 program focuses specifically on the organisms and geographic elements of wetlands and discusses threats to wetland areas. Complete program plans may be found in Section III.
State of Michigan Curriculum Objectives

Science

K-3
1. Green plants have the ability to make their own food (photosynthesis). (Introduce)
2. Living things have basic needs (food, H₂O, temperature ranges, etc.). (Introduce, Develop – test)
3. Plants and animals go through changes as part of their life cycle. (Introduce, Develop – test)
4. Living things change throughout their lives (growth). (Introduce)
5. Living things have adaptations which enable survival. (Introduce)
6. Environment is always changing and living things must be able to adjust to these changes in order to survive. (Introduce)
7. Living things are interdependent and constantly interacting. (Introduce)
8. Simple food chains. (Introduce, Develop – test)
9. Essential role of plants to all living things. (Introduce, Develop – test)
10. Living things and environments are interdependent and constantly interacting. (Introduce)
11. Relationship between food chains and a food web. (Introduce)
12. Environment of a living thing includes both living and non-living factors. (Introduce)

4-5
1. Green plants make their own food. (Reinforce – test)
2. Fungi don’t make their own food. (Introduce)
3. Living things have basic needs. (Reinforce – test)
4. Plants/animals go through changes in life cycles. (Reinforce – test)
5. Living things change by growth. (Develop – test)
6. Living things have adaptations. (Develop, Reinforce – test)
7. With changing environments, life must adjust to survive. (Develop – test)
8. Living things are interdependent and interactive. (Develop – test)
9. Simple food chains. (Reinforce – test)
10. Plants’ role is essential. (Reinforce – test)
11. Living things and their environment are interdependent and interactive. (Develop – test)
12. Relationship between food chains and food webs. (Develop – test)
15. Flow of energy through natural systems. (Introduce)
16. The environment includes both living and non-living factors. (Develop – test)
17. Air and water pollution affect living things. (Introduce)
18. Behavioral responses help a living thing survive and reproduce. (Introduce)
THE CURRICULUM INCORPORATION PROCESS

STEP THREE: Talk with Teachers
STEP THREE: Talk with Teachers

The purpose of this step is to verify that the programs you have brainstormed will accomplish educational objectives. By talking to the teachers now, you know what you can do for them and have a starting place for the discussion. If you involved teachers and administrators in the process earlier, neither group would have a grasp of the program possibilities. Now, you have mentally explored the possibilities of what you can offer and have an understanding of the academic challenges facing the schools. You’ve done your homework so to speak, so any time you spend with the teachers will be well spent.

Identifying teachers to participate in this process is the next step. Ideally, you have some teachers whose classes have visited your site, with whom you can consult. It is also possible that members of your staff or volunteer corps can give you the names of some teachers to contact. If not, you may need to contact the school district with which you wish to work and talk with the superintendent and/or principals of schools directly involved. The district may be able to direct you to a field trip coordinator or education specialist, if they have one. Otherwise, they may be able to suggest teachers whom you could contact. If you are lucky enough to have a pool of teachers already using your programs that you can consult, make sure to also contact teachers not currently using your program. Their participation can help you make your programs more valuable to an audience you currently aren’t reaching. You may identify these non-participating teachers through teachers already using your site, or through the school administrators.

You want to develop a panel of teachers representing both the visiting and non-visiting clientele (if you currently are offering education programs). If you have a grade level you are focusing upon, obviously you will want a panel representing that grade level. If you are looking to address programs at all levels, you may want to have several consulting groups, so that each teacher’s time is effectively utilized. Panel size may vary, but be sure that you feel comfortable steering the discussion with the number of individuals you select. Five to ten people is usually a manageable number.

Provide your panel of teachers with an idea of the programs you are developing. If possible, lead them through each activity. Make it clear to them that the ideas are still in the formative stages and that any aspect can be changed to better suit their needs. Stress your willingness to work with them to provide a program that will meet their needs. Read between the lines. Hear what the teachers are saying both about the program and the logistics involved with it. Teachers are busy people, and they need to sense that their input is valued and that you will listen to what they say.
Chances are that your efforts will be welcomed whole-heartedly by the teachers. Be sure to provide them with adequate time to think through the details and establish a timeline as to when they should provide feedback. They may be overwhelmed at first, but ideas may come to them later. Remember that these teachers will be less familiar with your objectives as you are of theirs. It will take time for them to think through the potential problems and possibilities of the programs you develop. If their feedback and suggestions make the program flow better and encourage greater use of the programs, then it will be worth the wait. Offer to field test the program for their classes in exchange for continued feedback.

Once the programs have been implemented, make sure that a method of evaluation is developed and used to assess their effectiveness. Education is an ever-changing process, and each time the program is presented, its success needs to be evaluated and changes made as needed.

Example: Harry S Truman National Historic Site

Teachers were selected from a list of program participants from the previous year. Since the focus was fourth grade, all instructors whose 3rd-5th grade class visited the site were contacted by phone for a short feedback interview. This phone interview strategy was employed because the schools were preparing to dismiss for the summer. Those teachers who seemed fairly interested in the process were then asked if they would be willing to serve on a panel to review the proposed programs. In addition, a list of teachers currently bringing classes to the Truman Museum, but not the Truman Home were also contacted for their feedback. Interested teachers were asked to participate in the panel. Due to the awkward time of the year, only two teachers were actually able to come in for a formal review of the proposed program (one teacher each, from the two lists). However, input was gathered from six other teachers via the phone. Although the panel of two teachers was helpful, two to three more individuals would probably have been more productive.

Originally when the program package was developed, it included only one story of Truman’s boyhood. Upon discussion with teachers over the phone, it was decided that reading ability varied greatly at the 4th grade level, so two stories should be developed. These stories were sent to the panel of reviewers, who checked the stories for vocabulary and reading level. They felt that the stories were balanced in their approach and could effectively be used in variety of classrooms.

The idea of an activity that focused on mapping of the Independence area was mentioned during the phone survey and received overwhelming response. Nearly all the instructors expressed an interest in utilizing an activity of this sort in the classroom, or as an extension to a field trip to Truman sites. This kind of activity was something the teachers had a need for, but it wasn’t one that they would have had time to develop on their own.

The teachers were also instrumental in the development of post-visit activities, as well as
encouraging the development of the mapping activity. Although their comments were almost completely positive, they were able to help the staff refine the package to best fit local school's needs.

Example: St. Croix National Scenic Riverway

The St. Croix National Scenic Riverway began this process prior to the summer of 1991. As a result, fewer details of the discussions between the park staff and teachers are available.

A survey of the surrounding schools, distributed in 1987-88, was used as a basis for the curriculum incorporation process at St. Croix. From the information provided by the teachers, river ecology and logging history were chosen as areas for program development.

A program plan for The Rivers are Alive was developed, and administrators at the Grantsburg public schools were contacted to develop a panel of reviewers. The panel consisted of the principal of the Grantsburg elementary, and two fourth grade teachers from the Grantsburg school. They reviewed the program plans, expressed interest in participating in a field-test, and scheduled their classes to participate in the fall of 1991.

Over the summer, the staff worked at making the package more complete with the addition of a pre-visit materials, post-visit activities, and refining the program for the students while at the Riverway.

Following the implementation of the The Rivers are Alive, the participating teachers were asked to evaluate its effectiveness. They were very pleased with the package. Important educational objectives were addressed successfully with the program, and the students enjoyed the experience. The only suggestion for change was that the original time schedule for the programs was adjusted so that the students had an extra half hour on the Riverway.

Example: Pictured Rocks National Lakeshore

Initially two teachers who had taken students to the Lakeshore were contacted to review the proposed package. These two teachers in turn, brought two additional instructors whose classes had not participated in Lakeshore programs.

Discussion with teachers yielded the changing of original grade groupings from grade K-1, 2-4, 5-6 to the existing grade K-1, 2-3, 4-5, as the teachers indicated that 6th graders were in middle schools. Also, an emphasis was placed on the necessity of appropriate pre-visit activities and materials. The teachers felt that they had plenty of time to incorporate as many pre- and post-visit materials as we could provide them,
and that the extent to which the programs were successful was dependent on their ability to follow it up in the classroom.

Following this initial meeting, the package was expanded to contain an extensive number of pre-visit and post-visit activities, as well as a resource list for teachers. This package was then previewed by the entire teaching staff of the Dearton Public Schools and the Munising Public Schools, including the principals from both schools. Each teacher was provided with the complete program plan, and they were encouraged to review it thoroughly and make suggestions. Their input helped establish a reasonable view of time constraints, distance requirements, etc. The teachers were surprised and pleased at the opportunities available to their classes at the Lakeshore.
PART THREE: COMPLETE PROGRAM PLANS

Harry S Truman National Historic Site
HARRY S TRUMAN NATIONAL HISTORIC SITE EDUCATIONAL PROGRAM

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Suggested Readings for Students and Teachers
Teacher Evaluation - Educational Programs
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Dear Educator,

The decisions made by Harry Truman during his presidency had a dramatic impact on the lives of United States citizens both then and now. Experiences from his childhood and lessons he learned while growing up helped to form his character and played a role in the decisions he made. Students living close to Independence have the opportunity to grow up in an area that had a great impact on Mr. Truman's life. No historic site can better address the character of Harry Truman than the Truman National Historic Site.

This packet is designed to serve as an introduction to the Truman Home prior to your fieldtrip. A variety of activities are provided including stories about Truman's boyhood (each geared for a different reading level), a slide show introducing the house on 219 Delaware and its importance, a map activity highlighting other sites of importance in Truman's life, and a crossword puzzle. It is important that some or all of these activities be used to orient the students prior to their arrival at the Home. Also included are a brochure that details Mr. Truman's life and a resource list to aid you in searching for additional information.

Our aim is to provide a packet that orients the students to the site and facilitates your lessons on President Truman. An evaluation form is provided to assess the quality of this pre-visit package as well as the tour. Please take the time to complete it and return the form to the Truman Home within a week of your tour. If it is convenient, you may choose to drop off the completed evaluation following the completion of the tour. Your feedback is crucial in our mission to serve your needs better. Thank you for your cooperation.
THE BOY FROM INDEPENDENCE

Myra Ewing looked down at the boy, dressed in a clean shirt and tie who was standing in front of her. "What is your name, young man?"

"Harry S Truman, ma'am," the child replied.

"What is your middle name, Harry?" Miss Ewing asked her new pupil.

"I don't think my parents ever decided, Miss Ewing. I was supposed to be named Harrison Shipp Truman, taking the middle name from my father's father. But others in the family wanted my middle name to be Solomon, taken from my mother's father. So my name stands simply as Harry S. Truman." replied Harry.

Miss Ewing smiled at the eight year-old boy. As she looked at him, she noticed the wire-rimmed glasses the child wore and also the bright white hat bearing the name of democratic presidential candidate Grover Cleveland. Handing him a copy of the Appleton's First Reader, she motioned him to take a seat with the rest of the class.

Even though Harry was eight years old, this was his first day in school. Before moving to Independence, his family had lived on a farm south of town - too far from school to attend class.

During lunch breaks when all the other children were playing sports, Harry would sit in a corner of the school yard and read. The glasses that allowed him to see clearly were much too delicate to risk breaking while playing sports. Harry really didn't mind though, because he loved to read. In fact, within a few years, he had read all the books in the Independence Public Library.

Every Sunday, Harry would put on a suit and go to Sunday school at the First Presbyterian Church. Although there were many children in Sunday school, one girl in particular caught his attention. With blue-eyes and golden blond curls, Harry was smitten by Bess Wallace. When he was older, he vowed that he would marry Bess Wallace someday.

When Harry was in Second Grade, he came down with a disease called diphtheria. He was paralyzed and couldn't move for six months after he recovered from the illness. His mother had to wheel him around in a baby buggy. Even so, after he got better he went to summer school to catch up with his school work. He did so well that he was able to skip the Third Grade. He started Fourth Grade when he was ten years old. Harry was now in the same grade as Bess Wallace.

He and Bess didn't have much in common though. Bess was a tomboy who loved to play sports, including tennis, track, and baseball. Harry didn't play sports but loved to read. When he went fishing with friends, Harry would sit quietly and read while the others did...
the fishing. His other love was playing the piano which he practiced two hours a day. Once a week, he rode the streetcar into Kansas City to receive piano lessons.

When Harry was twelve, his family moved to a house just a few blocks away from Bess Wallace's. The property was large enough for the family business, horse and mule trading. Harry's father was a quiet man. Customers knew though, that if Mr. Truman said a horse was of good quality, it was. From his father, Harry learned to be honest and to try to always do the right thing. "Honor," Harry's father said, "should always be put above profit."

Harry's mother enjoyed books, music and art and shared these interests with Harry. She also loved to hear about his school programs. Harry's mother liked children and enjoyed seeing them have a good time. Thus, the house on Waldo Avenue became a gathering place for the youngsters of the area. This group was later known as the "Waldo Avenue Gang". Together they organized meetings, parties and all kinds of fun activities -- including sledding down Farmer Street, which was a wonderful sledding hill. This group probably never dreamed that Harry would eventually become the President of the United States.

When Harry graduated from High School, his friend, Charlie Ross, received a kiss from the teacher for being such a good student. Harry asked Miss Brown where his kiss was, she replied, "When you do something worthwhile, you can have your kiss." Years later, after Harry and Bess Truman were President and First Lady of the United States, Harry got his kiss.
QUESTIONS ABOUT THE BOY FROM INDEPENDENCE

1. Who is the main character in this biography? What words would you use to describe the main character?

2. What did Harry do during lunch breaks? Why didn’t he play sports?

3. If Harry was 'smitten' by Bess Wallace, does that mean he liked or disliked her?

4. When Harry was in Second Grade, he was paralyzed for six months. What does 'paralyzed' mean?

5. What did Harry’s father teach him?

6. Why do you think the Waldo Avenue Gang used Harry’s house for a headquarters?

ADDITIONAL ACTIVITIES

1. President Harry Truman was born in 1884. Construct a timeline that includes his birth, his first year in school, when he started Fourth Grade, and when his family moved to Waldo Street.

2. Harry Truman’s family tree is shown below. Can you construct your own family tree?

Anderson Shipp Truman - Mary Jane Holmes  Solomon Young - Harriet Louisa Gregg

John Anderson Truman - Martha Ellen Young

Harry S Truman
When Harry S Truman was born, he was supposed to be named Harrison Shipp Truman. Shipp was the middle name of his father's father. However, some members of the family wanted his middle name to be Solomon. Solomon was the name of his mother's father. So, instead his middle name was simply left as "S".

When he was six, his mother discovered that he couldn't read the fine print (very small) in books. So Harry went to a doctor. He was given glasses to wear. It was wonderful to be able to see everything. However, he didn't dare play sports. Such activity might break the fragile glasses. So Harry spent his time reading the books from the Independence Public Library. By the time he was 15 years old, he had read every book in the library!

When Harry was eight years old, he went to school for the first time. Harry loved school and did well. His second year of school, Harry became very ill from a disease. It made his muscles weak and he couldn't move his arms or legs. The doctors said he was paralysed. In order to get around, Harry's mother had to wheel him in a baby buggy! Harry did get better, but he had missed most of Second Grade.

Over the summer, Harry went to school to catch up. He did such a good job that he was able to skip the Third Grade. At the age of ten, Harry began Fourth Grade.

Harry's mother was very important in guiding him in his love of books and school. She also urged him to learn to appreciate music and art. Harry started taking piano lessons when he was ten. The piano became an important hobby.

Harry's father traded horses and mules for a living. Harry's father told him how important it was to tell the truth. If one of his horses wasn't worth full price, Mr. Truman would tell the customer just that. He didn't want them to feel cheated. For the Truman family, honor was more important than making money.

When Harry was twelve years old, his home became a meeting place for all the area children. Harry's mother loved children and enjoyed hearing of their adventures. The children organized parties, meetings and sledding events. The group called themselves the Waldo Avenue Gang. One of the children Harry sledded with was Bess Wallace. Harry had a crush on her. They didn't have a lot in common though. While Bess loved sports, Harry loved to read and play the piano.

Though Harry was an ordinary boy, he eventually became one of the most important people in the world -- President of the United States. Standing beside him on the day he became President was his childhood love and wife, Bess Wallace Truman.

During his years in Washington, Harry never forgot his home town of Independence. He remembered his wonderful childhood years, his friends and teachers who helped him. Most of all, he remembered the lessons he learned about honor, honesty and responsibility.
QUESTIONS ABOUT THE BOY WHO WOULD BE PRESIDENT

1. Who is the main character in this biography? What words would you use to describe the main character?

2. What did Harry do during his free time? Why didn't he play sports?

3. Why did Harry get glasses?

4. When Harry was in Second Grade, he was paralyzed for six months. What does 'paralyzed' mean?

5. What did Harry's father teach him?

6. Which of Harry's family members shared his love for music?

ADDITIONAL ACTIVITIES

1. President Harry Truman was born in 1884. Construct a timeline that includes his birth, his first year in school, when he started Fourth Grade, and when his home became a meeting place for all the area children.

2. Harry Truman's family tree is shown below. Can you construct your own family tree?

Anderson Shipp Truman - Mary Jane Holmes       Solomon Young - Harriet Louisa Gregg

          |                          |
John Anderson Truman - Martha Ellen Young        |

Harry S Truman
TRUMAN'S INDEPENDENCE

1. Truman's Boyhood Home
   909 W. Waldo Avenue

2. First Presbyterian Church
   100 N. Pleasant
   (Harry & Bess's Sunday School)

3. Truman Home National Historic Site
   219 N. Delaware

4. Trinity Episcopal Church
   409 N. Liberty
   (Harry & Bess were married here)

5. Truman Railroad Station
   600 S. Grand
   (end of whistle stop campaign)

6. Truman Library & Museum
   1200 N. McCoy

7. Jackson County Courthouse
   (where Harry served as judge)

8. Truman Home Ticket Center
   223 N. Main

9. Palmer Jr. High School
   (stands on site of the High School Harry & Bess attended)

E-38
QUESTIONS RELATED TO TRUMAN'S INDEPENDENCE

This is a road map that can be used by people walking or driving. It can help you find out how to get from one place to another. In order to use it, you must find both the location of where you are now and where you want to go on the map. Then you run your finger along the streets that connect them. Often, there are many different ways for you to get there. Generally, you try to find the shortest route.

QUESTIONS

1. You are standing at the Truman Home Ticket Center (#8). What direction (N, S, E, or W) do you need to walk to get to the Truman Home National Historic Site (#3)?

2. What street would you walk down? Name the five streets you would cross on the way there.

3. From the Truman Home National Historic Site (#3), explain how you would get to Truman's Boyhood Home (#1). Be sure to give street names and directions (N, S, E, or W).

4. If you were standing at Truman's Boyhood Home (#1) and facing North, would you walk to the right or left on Waldo to reach Delaware Street?

5. If you were at Truman's Boyhood Home (#1) and you needed to catch a train at the Truman Railroad Station (#5), what streets would you travel on? Would you need to travel less than a mile or more than a mile?

6. From the Truman Railroad Station (#5), what route would you take to visit all of the places shown on the map? With a pencil, draw arrows on the map to show direction and try not to travel over the same area twice. Once you've done that, on a separate sheet of paper, write down the street names and what direction you were traveling on them.

ADDITIONAL ACTIVITIES

1. Choose a site you would like the class to visit. Give your classmates directions out loud instructing them how to get there from the Truman Home Ticket Center.

2. Draw a map from your school to the Truman Home.
TRUMAN CROSSWORD PUZZLE

ACROSS

3. Instead of playing sports, Harry did this.

5. Visitors don't touch items in the Truman Home because they are _____. (easily broken, delicate)

6. When Harry was six years old, he got _____ and saw clearly.

7. Truman's home town. He was called "The man from _____ ."


11. Harry's father always said, "_____ before profit."

12. Bess played this 2 person sport.

13. Truman believed he should always tell the truth. This is called _____.

14. The First Lady's first name.

DOWN

1. Harry's father traded _____ and mules.

2. Title for Harry Truman when he was the leader of the United States.

4. In high school, Harry and his friends formed the _____ Avenue Gang.

8. Age when Harry started school.

9. Diphtheria left Harry unable to move for 6 months. He was _____.
SUGGESTED POST-TRIP ACTIVITIES

1. Have each child identify 5 or 6 important events in Mr. Truman’s life that they learned about on their visit to various Truman sites. With his birth and death at either end, have the children create a timeline of Truman’s life using these events. Ask the children to write a short description of each event and draw a picture to go along with it.

Give the children different events and have them compile their items into one big timeline to be placed on butcher paper.

2. Have the children imagine that Harry S. Truman hadn’t lived in Independence, but grown up somewhere else. Then have them write a short biography about how Mr. Truman’s life would have been different.

How might Mr. Truman’s life be different if he was a boy now?

3. Have the children create a simple timeline of events in their life.

4. Have the children interview each other and use the timelines to write a biography of their partner. How does their life differ from Mr. Truman’s at that age? How might their life be different if they had lived during Mr. Truman’s time?

5. Have the children write a letter to their friend telling them about President Truman and describing what they saw on their field trip.
GOAL: To give children at the 4th grade level an overview of the Harry Truman story at his home, 219 N. Delaware Street. This program will focus on stories about the Truman family life that will illustrate the character of the man, Harry Truman.

SLIDE 1 — NATIONAL PARK SERVICE SYMBOL

SLIDE 2 — YOUNG HARRY TRUMAN

Our story begins when 35 year old Harry Truman moves into the house at 219 N. Delaware Street, the house we now know as the Truman home.

SLIDE 3 — TRUMAN HOME CIRCA. 1900

Of course, it wasn’t called the Truman home then. It was known as the Gates mansion. Built by a wealthy flour miller, George Gates, it was his family home.

SLIDE 4 — TRUMAN WEDDING PICTURE

Harry Truman moved in when he married Mr. Gates’ granddaughter, Bess Wallace in 1919.

SLIDE 5 — WALLACE FAMILY

Now, he just didn’t move in with his new bride. He also moved in with all of Bess’s family, who were rather high society folks.

SLIDE 6 — MR. TRUMAN FARMING

It was quite a change for Mr. Truman who grew up as the son of a farmer. He had to adjust to their way of doing things.

SLIDE 7 — DINING ROOM

He had to start wearing a suit and tie to the evening supper.

SLIDE 8 — GEORGE & FRANK WALLACE HOMES

He had to get used to having all of his in-laws around, like two of his brothers-in-law who lived in small houses on the property.

SLIDE 9 — MADGE GATES WALLACE

And, he had to get used to his strict mother-in-law who never quite thought Harry Truman was good enough for her daughter, Bess. But, Mr. Truman gladly tolerated all of that because he loved his wife.

SLIDE 10 — BESS AND BABY MARGARET TRUMAN

In 1924, Harry and Bess had a baby girl named Margaret.

SLIDE 11 — YOUNG MARGARET TRUMAN

Her parents lavished lots of love and attention on their only child.
When she was eight years old, Margaret received a very expensive gift for Christmas from her father, a baby grand piano. She cried when she saw it though... she was wishing for an electric train set.

Her parents weren't the only ones who gave Margaret extra special treatment. Her aunts and uncles who lived nearby could usually be persuaded by Margaret to treat her with cookies and ice cream in the afternoon. Then when it got to be her dinner time she could leave behind the vegetables she didn't like without feeling hungry.

Harry Truman became very busy with politics, starting as a county judge, then U.S. Senator, Vice-President, then finally, President of the United States...

...but, he always had time for his family. It was sometimes difficult when he was in Washington for Mr. Truman to get home, but...

...even when he was President of the United States, Mr. Truman still made visits home to Missouri to visit his mother who was over 90 years old by then.

He also made the long trip home to Independence for Christmas. He enjoyed spending this special time with his family in the living room of the Truman home.

Even though the President couldn't come home too often, Margaret and Mrs. Truman often came back to spend the summers in Independence.

In 1948, Margaret spent most of the summer painting their kitchen a bright apple green. Mrs. Truman liked it so well that she kept having it painted the same color for years after. It's still the same color today.

When Mr. Truman retired from being President, he returned from Washington to his old home in Independence.

He was able to get back to living a simple life again and doing things he enjoyed like going for walks around the neighborhood.

He was often known to stop kids your age when he was out on these walks to ask them how school was going. He especially liked asking them questions about his favorite subject, history.
Mr. Truman also had time again to read in his study. He mostly read histories and biographies because he believed if you learned about the past you could then better live your future.

He read so much that he claimed that by the time he was fourteen years old, he had read every single book in the Independence Library.

Mrs. Truman went back to caring for her house. She again had old friends from around town come over for card games on the back porch where she'd often serve her famous lemon-aid.

The Trumans sometimes had famous people call on them at the Truman home like President Nixon ...

The Trumans just wanted to live the plain and simple life of normal folks and not be treated as if they were special just because they had once lived in the White House.

In 1972, after enjoying nearly 20 years of retirement, Harry Truman died. He was 88 years old.

Ten years later, Mrs. Truman passed away at the age of 97.

When Bess Truman died, she gave the Truman home to the people of the United States so they could see it and learn about her family for generations to come.

When you visit the Truman home today, you will see it as Mrs. Truman left it when she died.

You'll also see the people who now take care of the house, the National Park Service.

Interpretive Rangers are there to help people learn about the Trumans and to make sure the house is being protected from any damage.
SLIDE 35 — CURATOR CLEANING
Curators very delicately care for all the Trumans' things to make sure they'll be preserved for many years. We hope you'll be able to bring your grandchildren to the house years from now and they'll see the same thing people see today.

SLIDE 36 — HARRY S TRUMAN NATIONAL HISTORIC SITE
We hope you can come and see Harry Truman's home soon so you can see for yourself how he lived and what kind of person President Harry S. Truman was.
Trunk Items
Trunk Items
GOAL: To provide students and their teachers a general selection of readings about Harry S Truman, his family, and his presidency. This listing is not comprehensive, but should meet teaching goals for the elementary level student.

- FOR TEACHERS -


- FOR STUDENTS -


Resources on Truman


McCandless, Perry, and Foley, William E. *Missouri Then and Now.* Austin, TX: Steck-Vaughn, 1976.


PART THREE: COMPLETE PROGRAM PLANS

St. Croix National Scenic Riverway
Program Title: "THE RIVERS ARE ALIVE"

Theme: The St. Croix River is a complex system of interconnected habitats that support many forms of plant and animal life.

Participants: Fourth Grade classes

Program Goals:
1. Students will gain a greater respect for the river.
2. Students will develop stewardship that includes actively protecting the Riverway.
3. Students will gain an understanding of the river system, life forms and the interrelationships contained there.
4. Students will develop a sense of ownership.
5. Students will be able to identify the National Park Service with the St. Croix.

Background: ST. CROIX NATIONAL SCENIC RIVERWAY

In 1968 Congress passed the Wild and Scenic Rivers Act to protect streams and rivers that were still relatively free flowing and possessing unique scenic beauty or ecological significance. Eight rivers were included in the original act. One was the St. Croix River with its main tributary, the Namekagon River. They were set aside for protection because of the clean, clear water in the rivers and because most of the land along the river was still undeveloped. Visitors to the river are able to find a wealth of wildlife. Within the water are many insects, fish and many species of mussels including two that are very rare. On the riverbanks and in the trees animals such as beaver, muskrat, deer, otter, and Bald Eagles can be found. Recreational opportunities include canoeing, camping, fishing, swimming and picnicking.
Pre-visit Preparation Activity Behavioral Goals:

1. Students will become excited and curious about the Riverway visit.
2. Students will conduct themselves with respect for the resource.
3. Students will understand how to participate safely.

HABITAT NEWS (mini-magazine) -- It can be duplicated and distributed to the students before the pre-visit activity. The stories and activities focus on the Riverway habitats, wildlife and the National Park Service.

OBSERVATIONS (wildlife reference sheet) You may duplicate this and review the types of life forms that live in and near the river before the pre-visit activity "The Web of Life".

Pre-visit activity: "THE WEB OF LIFE"

The focus of the "Web of Life" is the interdependent nature of all living things, plant or animal, and their place in the natural pyramid of life in various communities (forest, river, meadow, etc.). It will also highlight changes that occur, natural and human caused, and the affects they have on the environment.

It can be done by the teacher or by a visiting Park Ranger prior to the trip to the river.

Objective: Students will learn how all life and everything around it is connected, either directly or indirectly.

Materials:

--A ball of yarn
--Cards with pictures of the plants, elements and animals found in the freshwater marsh (on string to be worn around the neck). Actual items can be made available for hands on reinforcement such as a dragonfly, mussel, turtle egg shells, etc.

Introduction: Discuss Habitat News Mini-Magazine and ask the class to define Habitat and give examples of Habitat. What makes for a good habitat? What is so important about living in a good habitat? What is your habitat? Is your town a Habitat? The Northwoods? The Earth? What happens when part of the habitat is altered or destroyed? How does it affect us?

We are all connected to each other in some way. We are dependent on things in our environment, in our habitat. Without the trees the squirrels would not have adequate places to live or food to eat. And without the squirrels, what would happen to the numbers
of new trees? What are things in our environment that we are dependent on? Keep these things in mind when we play the "Web of Life" game.

Methods: Have everyone in your group stand in a circle. Each player wears a Web of Life card around their neck. The player becomes the animal, element or plant that s/he is wearing. The webbing begins by having one person state who they are and one way in which s/he is connected to one of the other players in the circle. Example: I am a HAWK and I breathe AIR. The HAWK would then toss the ball of yarn to the AIR. The AIR would then state who s/he is and restate that HAWK needs AIR to live; then toss it to RABBIT who also needs AIR. Each player holding the yarn after the toss will state the relationship between the person s/he got the yarn from and how s/he is connected to the person and then how s/he is related to the person s/he throws it to next.

Relationships may be direct or indirect. For example, a HAWK is a carnivore that might normally eat a RABBIT, but the HAWK also depends on CATTAILS (a plant) because it needs to breathe the oxygen made by the plant. When the web is completed and each player is connected to someone else, find out what would happen if one of the players in the circle is lost through pollution, habitat loss, over population, etc. That player holds up his/her string. Find out how many other players are affected by holding up just one string. (As soon as the students feel their string move they should hold it up). This illustrates that everyone in the web is affected, directly or indirectly, by the loss of one member. After all members have been affected, reverse the process. Ask students how the damage can be healed. Show restoration of the area.

Discussion: Are any of the parts of the web more important to the survival of the whole than the others? Are you surprised that some animals or elements you had considered unimportant are actually essential to the survival of the whole web? When you are finished discussing these questions, untangle the web by throwing the yarn backwards, restating all the relationships you named earlier, starting with the last connection first.

(This activity works well with young children when they are seated and yarn is rolled between the players).

Total time: 25 minutes.

"When we try to pick out anything by itself we find it hitched to everything else in the universe." —John Muir
On-site activity: "Let's Go Mucking"

Objectives: After exploring the river and its five habitats (stream bottom, open water, water surface, stream edges and the forest canopy), the students will be able to:

1. List three of the habitats that make up the river.
2. List one plant or animal from each of three habitats.
3. List two plants or animals that have a predator/prey relationship.
4. Describe one way that they can help protect the river.

Materials:

--4"x 6" blank cards on which to list life forms
--6"x 9" blank cards on which to list habitats
--laminated wildlife "OBSERVATIONS" reference sheet
--small dipper nets and small seining nets
--bug boxes
--buckets
--A flip chart is optional

Location: A pre-designated landing on the St. Croix River or Namekagon River

The students, teachers and chaperons will arrive by bus at the river landing where they will be met by a ranger. The ranger will gather the group in the picnic area and begin the program by asking the group if anyone can explain what a habitat is. The definition will be written on a flip chart or poster when the group has arrived at a satisfactory description. The ranger will ask the students to look around the area and describe as many habitats as they can see. The ranger will list the habitats they have found on cards and place the cards in five separate locations in the picnic area (should any be missed the ranger will give clues). The cards will be used later in the activity. Time: 15 minutes

At this point the ranger will divide the group into pairs and give each pair a bug box and either a dipper net or a small seining net. Each pair of students will also be given a laminated "OBSERVATIONS" sheet which will have identified some of the more common animals and insects found in the water. Moving to the waters edge the students will be instructed to use their nets to find or catch plants and animals that they can find in the water or along the riverbank, examining them with their bug box lenses as they find them and attempting to identify them from their "OBSERVATIONS" sheets. All finds will be brought to a central location and placed in several large buckets. After about twenty to thirty minutes the ranger will call the students from the river to the bucket location.
At the buckets the students will describe to the class what they have found. The ranger or the teachers will help identify it if the student was unable to from their "OBSERVATIONS" sheets. As each item is described, the ranger will write down the name of the item on a 4 x 6 card and hand the card to a student. After all groups of similar plants or animals have been discussed, there will probably be a few students without cards. The ranger can give them cards of animals which may not have been seen such as eagles or otters. After each child has a card, they will be instructed to run to the habitat card that they think is proper for their card. Some students may have animals such as frogs which will fit in more than one habitat. After the habitats have been occupied, ask each student to find someone who has a card belonging to a species which their species would eat. This should recreate the web of life that they learned in the classroom.

Time: 45 minutes

On-site wrap-up: With the students gathered together, the ranger will take a couple of minutes to review the wealth of life found in just one small section of the river. Then he can ask the students if they can list some of the ways that they can help to protect all the plants and animals living in the river. After discussing these ideas the ranger and children will release the animals back into the St. Croix. The ranger will then thank the children for visiting the Riverway and refer the class to the teacher for departure.

Time: 10 minutes

Total time: 1 to 1 1/2 hours
Post-visit activities:

"Create-a-River" -- In the classroom the students and teacher can create their own river using a dishpan as the stream bed, sand and rocks for the stream bottom, water and small models of some of the plant and animal life that they found in and along the St. Croix River. Build up vegetation, trees, etc. with twigs, stones, leaves, gathered on playground lawn. The models could be either small plastic pieces from a dime store or they could be made by the students. The activity would re-emphasize the diversity of life found in a river system.

Materials Needed: Dishpan, sand and rocks, water and models of plants and animals of the riverway (or have children draw them on cardboard and cut out).

"Pyramid of Life" -- For each identified habitat, have the children build a food pyramid, with the producers on the bottom, the primary consumers above them, and the secondary consumers on top. Have the children assume a character and have them physically create the pyramid of bodies. Note: Only do small pyramids with three levels using 3 - 6 children at a time on a gym mat. Discuss how it is necessary for a wider base to support the upper levels. Use this as a springboard into discussions of Biomass levels and population changes.

Materials Needed: Floor mat and an area large enough to build body pyramids.

"To Dam or Not To Dam" -- An Aquatic Wild Program by Project Wild from the Western Regional Environmental Education Council. This activity presents an opportunity for role play. "The Students will be able to evaluate potential positive and negative effects from constructing a dam on a river...by role playing individuals representing differing perspectives and concerns related to a complex issue."

Materials Needed: Aquatic Wild reference book for outline of activity, cards with role title (with string to hang around neck).

Write a page report about one of the animals discussed or found at the river.

Materials Needed: Reference books for children to look up information on particular animals.
Bibliography

BIBLIOGRAPHY


Golden Nature Guides. New York: Golden Press (Recommended for young students)

Birds                                      Reptiles and Amphibians
Flowers                                     Mammals
Insects                                     Butterflies and Moths
Trees                                       Non-Flowering Plants
Spiders                                     Pond life


A family of frogs moved in at the end of Marsh Lane yesterday. This nosey reporter found them jumping for joy over their new home. The frog family is originally from Runoff Creek. They grew up there and had everything they needed - bugs to eat, a moist place to live, air to breathe and water to drink. Life was good at the creek.

This summer though, very little rain fell. When there is a long period with no rain and the land dries up, weather forecasters call it a drought. Over the summer the creek grew smaller and smaller. Things got pretty cramped for all the animals that lived there.

Last week, Runoff Creek dried up completely. The mosquitoes stopped hanging around, the plants died, and the frogs were left high and dry with nothing to eat. Without the water, their skin became so dry that it started to crack! It was time for the frogs to move too. They set off hopping, hoping to find a home.

It took a full day, but they eventually arrived at the St. Croix River. It was a perfect place for them to live. It was a clean river. They could tell because there were lots of Dragonflies flitting about. Dragonflies only live near clean waters! Dragonflies do eat mosquitoes but there were plenty of mosquitoes for the frogs too!

After taking a swim and grabbing a bite to eat, the frogs were ready to move in at Marsh Lane. So if you see a frog while visiting the St. Croix, be neighborly and say "Hello".
Have you ever visited the Namekagon or St. Croix rivers? People love to canoe, fish, swim, and camp along the banks of these rivers. Since you live so close, chances are that you have spent some time at these rivers. If you haven’t, your class will get to visit the river soon.

Did you know that people drive from miles away just to see your neighborhood river? These visitors come because parts of the Namekagon and St. Croix River are part of the National Park Service. It is called the St. Croix National Scenic Riverway. As a National Scenic River, the waterways are protected in their natural state. The animals and plants living within the river and land surrounding it are also protected. In order to keep them safe, the river habitat -- those areas that provide food, air, shelter, and water for the animals to live in and around -- must be preserved.

Luckily, there are many park rangers that work hard to protect the river system. One of their jobs is to patrol the river and make sure that people enjoy the river without damaging the animals and plants that live there. When your class comes out to the St. Croix National Scenic Riverway, the rangers will have some rules for you to follow while discovering the river habitats. Be sure to listen closely and follow directions. With your help, the critters we discover will still be around next time you visit the riverway.
Since the St. Croix River borders the states of Minnesota and Wisconsin, many different agencies are concerned about the animals and plants that live there. Officers from the Wisconsin and Minnesota State Departments of Natural Resources as well as the National Park Service all work along the river. Therefore, you may see people wearing grey and green uniforms and be unable to tell which agency they represent.

National Park Service staff have a special patch on the left shoulder of their uniform. This patch shows an arrowhead, which is the official logo of the National Park Service. Whether you are at St. Croix National Scenic Riverway, Yellowstone, or the Grand Canyon, all the Rangers will be wearing this patch.

Color this National Park Service patch just like the ones the Rangers wear.

Arrowhead -- brown
Trees -- green
Snow on mountains -- white
Buffalo -- white
National Park Service words -- white
Habitat News (pg. 4)

Crossword

1. Animal like a clam.
2. Area that provides food, water and a place to live
3. Not salt water, but _________
4. A river on the Minnesota/Wisconsin border
5. An amphibian that hops and eats insects
6. Long period with no rain and streams dry up
7. To protect and take care of
8. A flying insect that eats mosquitoes

Across
4. A safe place to live that protects animals from the weather and other animals
5. Needing one another to survive
8. To keep safe
9. The small insect that buzzes and bites
11. A body of water larger than a stream
12. The main tributary of the St. Croix River
13. The St. Croix National Scenic Riverway, Grand Canyon, and Yellowstone are all part of the

Down
1. Animal like a clam.
2. Area that provides food, water and a place to live
3. Not salt water, but _________
4. A river on the Minnesota/Wisconsin border
5. An amphibian that hops and eats insects
6. Long period with no rain and streams dry up
7. To protect and take care of
8. A flying insect that eats mosquitoes

Words used:
National Park Service
Interdependent
Mussel
Dragonfly
Habitat
Shelter
Preserve
Protect
Freshwater
River
Namekagon
Mosquito
St. Croix
Drought
Frog
Fire Along The River

Lightning from the thunderstorm last night struck the old white pine near Raspberry Landing. A small fire started and the wind spread the flames to the surrounding woods. A small section of woods was burned before the blaze died out.

Mr. Bushy Squirrel was seen leaving the area. When asked why he was moving, he stated that his leafy nest had been burned and that there were no leaves left to rebuild with. "The habitat has been changed," he said, "and I no longer have a home for shelter. The fire has also limited my food supply. Luckily though, the fire was small, and there are areas a short distance away that have good habitat -- areas that can provide shelter, food, water and air. We are lucky. My uncle was in the big fire at Yellowstone, and there just wasn't enough room for all the animals. Some died and some had to move to a space that could provide all their needs, a habitat that they could live in."

The trees in their new home will benefit from Bushy and his family. The trees provide food for the squirrels and the squirrels will help plant new trees when they bury their nuts. Some nuts they will eat but some will grow into new trees. The squirrels and trees need one another -- they are interdependent.

Meanwhile, a Flicker Family was seen moving into the burned out section. When asked how the fire affected their move, Mrs. Flicker stated that it provided them with a place to live. "This area really wasn't the best habitat for us before. We like to live in dead trees. Thanks to the fire, there is some dead-tree space available here. Plus, many bugs will be moving in to munch on the dead wood, and that means good eating for my family."

The National Park Service Ranger says that it is expected that some animals will have to leave the area as a result of the fire. However, many new plants will begin to grow and animals that like open areas will continue to move into the area. "Changes in habitat lead to changes in the types of animals and plants that live there. Such changes are normal and good. If the area is small, such events don't create much of a problem for the wildlife living there."
The St. Croix and Namekagon Rivers are very clean freshwater rivers that provide habitat for many kinds of animals. Bandit Raccoon finds mussels to eat in the Riverway. The mussels look like clams. They can only live in waters that are not polluted. The mussels in the St. Croix are protected because some of them are endangered. Do you know what endangered means? Find the word "endangered" in the dictionary and write what it means here.

Color Bandit in his habitat.

Raccoons are brown with black on their face and tails. They live in hardwood timber near water.

(this illustration reprinted by permission of Missouri Department of Conservation)
© 1979 Missouri Conservation Commission
Look for these larger animals too!

Fish
Snake
Turtle
Frog
Raccoon
Goose

Great Blue Heron

Snail

Salamander

Which way does the water go?

Draw arrows at the ends of the lines to show the direction that the water flows or which way the vapor travels.

Where's the water in your park?

Take a look!

Is your water a: pond, lake, lagoon, river, stream, puddle, drainage ditch, or?

What color is the water? ___________

Can you see the bottom? ___________

Is the bottom: muddy, weedy, sandy, ___________

Is the water moving? _______ if so - why?

Wind, current, both _______
**LET'S LOOK AT WATER!**

Many different life forms live on in or near water. Try to find some living things in and around the water in your park. See how many you can find in the list below.

**PLANTS**
- CATTAIL
- ROSEHEAD
- WATER LILY
- HORSETAIL GRASS

**CRUSTACEANS** (hard-shelled animals)
- FAIRY SHRIMP
- WORM
- WATER FLEA
- DAMSELFLY Nymph
- SPRINGTAIL
- HELGRAMITE

**SNAILS**
- GIANT POND SNAIL (GREAT LILY SNAIL)
- SLIMY SNAIL

**INSECTS AND THEIR LARVAE**
- MAYFLY
- DRAGON FLY
- WATER STRIDER
- WATTERBOATMAN
- WATER FLEA
- BREATHTING TUBE
- MOSQUITO LARVA
- CRANE FLY
- BUTTERFLY LARVA
- (WATER TIGER) PREDAOUS DIVING BEETLE
Behavioral Guidelines (Please brief children before they exit bus at County "O" Landing)

1. Please, no running at the landing.

2. Do not enter river until Ranger instructs you to.

3. Please do not splash one another -- it also disturbs the animals, fish, frogs, and other river critters.

4. When it is time to go into the river only go in up to your ankles or knees.

5. Be good listeners.

6. Handle live animals with care and gentleness.

7. Don't be afraid to explore -- there are lots of critters out there!!

8. Think safety -- the river should be respected.

TECHNICAL GUIDELINES TO BE GIVEN AT RIVER LANDING BY PARK RANGER:


2. Proceed to the river edge for a demonstration of proper care and use of nets.

3. By skimming the bottom of the river, especially near vegetation, aquatic insects are stirred up and will get caught in the net.

4. Please do not let the nets get filled up with sand because they are not strong enough to hold it.

5. When emptying the net into the pans do so gently, turning the net inside out. Handling of the insects will need to be done with care since they are quite fragile.

6. Ranger will ask if there any questions before the activity begins. When all is understood, the river mucking will begin.
PART THREE: COMPLETE PROGRAM PLANS

Pictured Rocks National Lakeshore
Off-site Pre-Visit Activity:
Goal:
Introduce wetlands and what characteristics make up a wetland.
Introduce the National Park Service and the role the Lakeshore/rangers plays in the overall scheme.

Materials Provided:
Harriet, the Great Blue Heron storybook (1)
Marsh Trail Field Guide classroom quantities

A large storybook made of posterboard will be distributed to the schools a week prior to the classes visit. This storybook, Harriet, the Great Blue Heron, will discuss what wetland animals need to survive and introduce the concept of preserving wetlands. The teacher should read this story out loud to the class. After the story has been read, the teacher will hand each student a copy of the Marsh Trail Field Guide. This field guide is a booklet with blank pages that the children can color in along the hike. The first page is an illustration of the story, "Harriet, the Great Blue Heron". They should put their name on it, and color the first page of the booklet, which is the final picture in the story they just heard. The field guides should then be collected because they will be used again once the class is on-site at Pictured Rocks National Lakeshore.
HARRIET THE GREAT BLUE HERON

Rmmmm, Rmmmm, Beep, Beep, Rmmmm, Rmmmm....

Harriet awoke with a start. She brushed the feathers from her eyes and looked down below her tree. A large truck attached to what looked like a huge drinking straw was sucking up all the water in Heron Pond. Another truck with a huge scooping arm was dumping loads of dirt right where the water used to be.

"Oh dear, oh dear!", Harriet thought anxiously. Her little heart was pounding with fear. "What am I going to do? My little pond is gone. Where am I to fish for food, and where will I find water to drink?"

With these questions floating in her mind, Harriet became aware of a familiar rumble in her stomach. It was time for breakfast, and she had no where to go.

"Well, I must be brave," Harriet said to herself. "These people don't want to hurt me, they just want my pond. They probably didn't realize that I lived here."

No matter why they were filling in the pond, Harriet knew she must fly off to look for food. Standing up straight in her tree, she spread her wings and jumped out of the tree. Slowly she beat her wings to stop her downward fall and began to move forward in the sky.

Harriet had never gone searching far from Heron Pond. She hadn't needed to. Everything she needed was right there -- fish to eat, a nest to raise young in, trees to hide in, and water to drink. She had it all, or so it seemed, before they took the pond away.

Following her stomach, Harriet keep looking below her for a pond or lake. Just when she thought she would die of starvation, she caught a whiff of fish smell. Anxious for a meal, she flew down to find the source of the smell.

Surrounded by huge buildings, Harriet landed on a hard, flat, white surface. It was hot, and her claws scratched the surface as she walked along. In amongst these buildings, Harriet found a pile of dead fish heads laying outside a door. Gulping them down, Harriet's stomach felt a bit happier. Where was she, she wondered. The sign on the door said, "Restaurant". Harriet didn't know what that meant, but she was surely happy to have eaten.

"Could this be a new home for me?" she wondered. "I have fish to eat." She looked around for a large tree in which to hide and live. There was no tree, only buildings. Next she looked for a place to find a drink of water. She could find nothing.

"Well, I have food to eat here. But I have no place to live and no water to drink. I don't think this would make a good home for me." With that, she took off flying once again in search of a home.

As she flew away from the buildings, Harriet caught sight of another large building off by itself. Located behind it was a large circular pond. "Perhaps this will make a good home," Harriet thought as she landed. The pond was not surrounded by trees but by a metal fence with a sign saying "Sewage Lagoon". The heron could see no sign of activity. It smelled bad, and even though Harriet searched hard, she couldn't find a single fish. "Well, here I have water to drink, but there are no fish to eat nor trees to live in. I don't think this
would make a good home for me." Leaping into the air once more, Harriet flew on.

Next, Harriet found a large forested area with lots of big trees. Boy, were they grand trees! Harriet had fun playing hide-and-go-seek with herself. Yes, indeed, these trees would make a great place to stay. As she searched for a pond in which to fish, Harriet discovered that there were none close by. "Oh, dear. If I have no place to fish, I have nothing to eat and drink. I don’t think this would make a good home for me."

Just when Harriet was about to give up, she was struck by huge cliffs with multiple colors streaked on them. As she was gazing at these beautiful rocks, a small pond came into sight. Harriet flew down to investigate.

The area was filled with either standing ponds or wet, marshy areas. A variety of tall trees occupied the area. And most of all, there were very few people.

Harriet thought a minute. "There is food here, water to drink, and plenty of large trees to hide and build nests in. I think I have found my new home. Just one thing worried Harriet -- when were the trucks going to come and destroy this place too?"

Shortly afterwards, Harriet heard the sound of footsteps. She froze, so that no one would see her. A man in green pants, gray shirt, and a big hat was leading a group of small children through the area. He told the kids that this area was set aside by the American government and the National Park Service to protect its resources. Since wetlands were being lost so quickly throughout the world, it is important to save what was left.

Harriet smiled. She had found a new place to live. Also, thanks to the National Park Service, she would never have to search for another home again. Here she had the food she needed, a safe place to live, and water to drink. Harriet was a lucky heron.
MARSH TRAIL
K/1 Grade Level

On-site Activity:
Goals:
   Show the great diversity of wetlands. Wetlands are cool.
   Provide a positive experience in the outdoors.
   Encourage kids to serve as guides for their parents.
   Emphasize how wetlands change over time.

As the children get off the bus, they will be introduced to Pictured Rocks National Lakeshore. The ranger will suggest that in order to get to know the Lakeshore and its importance, the students will have to be investigative reporters and follow some clues to find a treasure. Because reporters need to remember important facts, they will be given the Marsh Trail Field Guide that they started back at school. As they make their way through the trail of clues, the children will have to fill their guide with pictures and rubbings for future reference. The ranger will hand each child a crayon.

At the first stop, the ranger will give the children hints on where they will find the first clue. The children will find a film canister with the first clue (clue could include a picture of the item they are looking for) at the base of a tree. All the treasure hunt stops can be found below, designed to provide the children with a general understanding of the components of a wetland. Interspersed between the treasure hunt stops are interpretive moments, noted below.

**TREASURE HUNT STOPS**
- base of split tree (1st clue)
- beaver cut tree
- cedar with many trunks
- black spruce tree
- bark rubbings
- sweet gale
- 4 hidden animals
- listen for birds
- sphagnum moss (near name board)
- cattail doll
- beaver lodge

**TEACHABLE MOMENTS**
- succession game
- feel tamarack/cedar
- water quality
- aquatic observation
- bug net/rock & rope
Off-site Post-trip Activity:

Cattails for Kids

Materials Needed:
- Brown Felt
- Long Pipe Cleaners
- Green Construction Paper
- Copies of Cattail "head" pattern
- Scissors
- Glue
- Tape

Your kids can make cattails that look like the real thing. Before they start, make some cattail "heads" for them to work with. Just trace the pattern piece shown below onto brown felt, making sure you trace two patterns for each child. Then cut out the pieces and hand them out.

Provide green construction paper and long pipe cleaners, then have the kids follow these steps:

1. Put glue on one side of a felt piece, making sure you spread it evenly and fairly thickly over the whole side. (Don't rub the glue into the felt! If you do, the felt will become too sticky and wet to work with.)

2. Lay a pipe cleaner lengthwise along the middle of the glue-covered felt, leaving about one inch sticking over the top edge. Now lay the other felt piece on top. Press the two together firmly and let them dry.

3. Cut long, tapering leaves out of green construction paper. (Two or three leaves are enough for one cattail.) Fold the bottom of each leaf around the pipe cleaner stem, then tape them in place. Your cattail is now complete!

example:

MARSH TRAIL
2/3 Grade Level

Off-site Pre-visit Activities:
Goals:
    Introduce the concept of habitats.

Materials Provided:
    Objects of the Marsh
        Cattail
        Black Spruce bough
        Cedar bough
        Beaver skull
        Green Frog
        Heron foot or track
        Sphagnum Moss
        Sweet Gail
    Resources for research
        Copy sheets for Habitracks Activity

Fifteen items will be delivered to the school a week before the program is scheduled. Field guides and appropriate research materials will also be delivered. Students should work in teams to figure out what each object is and where it might be found. If time allows, have the class do the Habitracks activity that is attached. This activity will help the students gain an understanding of the concept of habitat.
Objectives: Students will be able to identify the basic components of habitat as food, water, shelter, and space in a suitable arrangement; and generalize that these components of habitat are needed by all animals - including people and wildlife.

Method: Students identify the components of habitat by using a map and exploring their school playgrounds.

Background: People and other animals share some basic needs. Every animal needs a place in which to live. The environment in which an animal lives is called "habitat". An animal's habitat includes food, water, shelter, and adequate space in an arrangement appropriate to the animal's needs.

The major purpose of this activity is for students to understand that all animals -- including people -- share some of the same basic needs.

Materials:  
- habitat maps
- habitat components
- scissors
- chalkboard
- task cards
- glue or tape
- pencils
- small paper bags

Procedure:
ADVANCE PREPARATION BY TEACHER
1. Draw a simple map of the school grounds, including sidewalk, buildings, and playgrounds. Make enough copies of the map -- saving your original to use another time - so that you have a map for every group of three students.

2. Choose different animals for which you can draw "tracks". For example: bird, cat, dog, bear, mouse, child, deer, and horse.

3. On each map, mark the travels of the animals you have chosen for that map. Try to map the travel as realistically as possible -- however, you can begin from the classroom and end back at the classroom. Write the name of the animal, with the word "HABITAT", at the top of each map. For example: "BIRD HABITAT: WHAT BIRDS NEED TO SURVIVE"

4. Make one task card for each animal whose tracks you have mapped. Each task card should look the same, but be a different color. Each card needs to have a shape drawn to represent "food", "water", "shelter", and "space". For example:

![Bird Habitat Task Card](Image)

5. Make a set of food, water, shelter, and space pieces which will fit over the shapes on each task card. Again, these "habitat component" pieces need to be the same color as the
task card they go with. For example, if you chose brown for the bear task card, the habitat pieces should also be brown. Just before the activity begins, go outside on the school grounds and place the habitat component pieces along the trail for the appropriate animals. (Be certain to tell other teachers and students about the trail, and ask their cooperation in not disturbing it.) For example, food in the "BEAR HABITAT" might be found at a bush, water in a puddle near the drinking fountain, and space on the playground. Several habitat pieces for different animals will need to be in the same general area -- for safety and convenience as you watch the children. The color-coding works well to minimize confusion -- since each group of children with a map and task card is only looking for the color that matches their task card.

PROCEDURES WITH THE STUDENTS
1. Divide the class into teams of three students each.

2. Give each team a "habitat map" that indicates the name of the animals they are tracking. Tell the students that they have ten minutes to track the animals they have been given, looking for the things their animal needs to survive. Give each team the task card for their animal. Also give each team a paper sack to put their habitat pieces in as they find them.

3. Tell the students that to track the animals, they have to be quiet. Being very quiet, all the teams are to go outside and -- using their maps -- track their animals. To share responsibilities, one student could hold the map, another the task card, and another the sack for the habitat pieces. Tell the students that they are going to find things that represent what their animals need to survive. When they find something that is the color of the task card they are holding, they should put it in their sack. They should find pieces that match what they see on their task cards.

4. Within ten minutes, the students should all follow their maps back to class.

5. Once back in class, give the students tape or glue so that they can affix their habitat pieces to their task cards.

6. Once the habitat task cards are completed, invite the student groups to report on what they found and where they found it. Ask the students if everyone found "food". When they say, "Yes", write food on the chalkboard. Do the same with "water", "space", and "shelter". Ask one of the students in each group to draw a line connecting the four habitat pieces. For example:
Tell the students that the food, water space and shelter have to go together in suitable arrangement in order for an animal to live. For example, animals need the right amount of space to survive. A bear needs more space than a small insect. Animals must have the right amount and the right kind of food. Food, water, and shelter must be available when needed, etc. (The line connecting food, water, space, and shelter represents the idea of a suitable arrangement for the animal in its habitat.)

Taken from: Project Wild (elementary edition)
QUICK FROZEN CRITTERS

Objectives: Students will be able to 1) discuss predator/prey relationships, including adaptations; 2) describe the importance of adaptations in predator/prey relationships; and 3) recognize that limiting factors -- including predator/prey relationships -- affect wildlife populations.

Method: Students play an active version of "freeze tag".

Background:

Predator: An animal that kills and eats other animals for food.

Prey: An animal that is killed and eaten by other animals for food.

Limiting Factors: There are many influences in the life history of any animal. When one of these (e.g. disease, climate, pollution, accidents, shortages of food) exceeds the limits of tolerance of that animal, it becomes a limiting factor. It then drastically affects the well-being of that animal. Predators are limiting factors for prey. Prey are limiting factors for predators.

Animals display a variety of behaviors in predator/prey relationships. These are adaptations to survive.

Some prey behaviors are: signalling to others, flight, posturing in a fighting position, scrambling for cover, and even "freezing" on the spot to escape detection or capture by predators. The kind of behavior exhibited partly depends on how close the predator is when detected by the prey. Each animal has a threshold for threat levels. If a predator is far enough away for the prey to feel some safety, the prey may signal to others that a predator is near. If the predator comes closer, the prey may try to run away. If the predator is too close to make running away feasible, the prey may attempt to scurry to a hiding place. If the predator is so close that none of these alternatives is available, the prey may freeze in place. The closer the predator comes to the prey animal, the more likely it is that the prey will "freeze" in place. This "freezing" occurs as a kind of physiological shock in the animal. (Shelter or camouflage may also make them invisible to the predator when they freeze.) Too often people who come upon animals quickly and see them immobile infer that the animals are unafraid when, in reality, the animals are "frozen", or, as the adage goes, "frozen stiff". The major purpose of this activity is for students to recognize the importance of adaptations to both predators and prey and to gain insight into limiting factors affecting wildlife populations.

Materials: food tokens (pieces of cardboard)
gym vests or other labelling devices to mark predators
four or five hula hoops to serve as "cover" markers
pencil and paper
Procedure:
1. Select any of the following pairs of animals.

   Predators
   - coyotes
   - hawks
   - cougar
   - foxes

   Prey
   - cottontails
   - ground squirrels
   - deer
   - quail

Identify students as either "predators" or "prey" for a version of "freeze tag" -- with approximately one predator per every four to six prey.

2. Using a gymnasium or playing field, identify one end of the field as the "food source" and the other end as the "shelter".

3. Four to five hula hoops are placed in the open area between the "shelter" and the "food". These represent additional shelter or "cover" for the prey and can be randomly distributed on the filed. (If hula hoops are not available, string might be used.)

4. Food tokens are placed in the "food source" zone on the ground. Allow three food tokens for each prey animal. Example:

   ![Diagram of food tokens and shelter]

5. Predators should be clearly identified.

6. Use a whistle or some other pre-arranged signal to start each round. When a round begins, prey start from their "shelter". The task of the prey animals is to move from the primary shelter to the food source, collecting one food token each trip, and returning to the primary shelter. To survive, prey have to obtain three food tokens. Their travel is hazardous, however. They need to be alert to possible predators. If they spot a predator, they can use various appropriate prey behaviors -- including warning other prey that a predator is near. Prey have two ways to prevent themselves from being caught by predators; they may "freeze" any time a predator is within five feet of them; or they may run to cover (with at least one foot within one of the hula hoops). Frozen prey may blink, but otherwise should be basically still without talking.

7. Predators start the game anywhere in the open area between ends of the field, and thus are randomly distributed between the prey's food and primary shelter. Predators attempt to capture prey to survive, tagging only moving (not "frozen") prey. Predators must each capture two prey in order to survive. Captured prey are taken to the sidelines by the predator who captured them.
8. A time limit of five to seven minutes is suggested for each round of the game. (Captured prey on the sidelines will get restless if rounds are much longer).

9. Play the game twice, allowing each student to be both prey and predator.

10. Discuss with the students the ways they escaped capture when they were prey. Which ways were easiest? Which were most effective? What means did they use as predators to capture prey? Which ways were best? What did the predators do in response to a prey animal who "froze"? In what ways are adaptations important to both predator and prey?

MARSH TRAIL
2/3 Grade Level

Off-Site Post-trip Activities:

Materials Provided:
- 8 Task Cards for Create-an-animal
- Master copies of Water-scapes
- Activity sheet for How Many Bears Can Live in the Forest

1. Create-an-animal - Separate the class into teams of 3-4. Each team will be read a task card which describes an animal or plants habitat and its behavior. The team must then create a creature that is adapted appropriately to live in the habitat described and function as it does. This can be a drawing exercise or a multi-dimensional media project, depending on the teacher. If individual work is desired, individuals can be assigned task cards. Display the creations for the whole school.

2. Habitat Puppet Show - Have the students bring old socks from home and have them make puppets of some wetland creatures. With small groups, have them develop a puppet show that explains to others what a habitat is, and why we need to preserve wetlands. Students could perform for each other, or for other classes.

3. Wetland Picturescape - Copy enough Wetland Habitat sheets and Wetland Critters sheets so that each child gets one of each. Have the students cut on the dotted lines of the Habitat Sheet and fold on the solid lines so that there are several "windows" in the page. Have the students cut out critters that would fit into the windows. Have them line the Wetland Habitat sheet up with a blank piece of paper, and mark where the windows are located on the blank sheet. This is the back sheet, and the students should glue their critters onto the blank sheet in an area marked as a window. The Wetland Habitat Sheet is then placed over the back sheet and they are stapled together. The student then has a picture of a wetland that they can color, with windows that reveal the creatures living in the wetland.

HOW MANY BEARS CAN LIVE IN THIS FOREST?

Objectives: Students will be able to: 1) define "carrying capacity"; and 2) describe the importance of carrying capacity for wildlife and people.

Method: Students become "bears" to look for "food" in a "habitat" during this physically-involving activity.

Background: Carrying capacity may be defined as the number of plants or animals of a given species that an area of land or water can support. It is the largest population a unit of habitat can support on a year-round basis, or during the most critical period. Carrying capacity for many species is in a constant state of change, both seasonally and from year to year. Year to year variations may result from factors such as natural disasters, changes in rainfall and temperature patterns, or human interventions. Populations of living things tend to fluctuate naturally around some level. Carrying capacity affects that level. A population may be below carrying capacity, such as in the spring following a hard winter, or temporarily above it. The latter situation inevitably results in a decline of the population by a variety of natural limiting factors, e.g., mortality, disease, emigration, and lowered reproductive rate, and usually lasts for a short period.

In this activity, black bears will be the focus in order to illustrate carrying capacity. Black bear habitat limits bear populations especially through the influences of shelter, food supply, and the social tolerances or territoriality of the animal. Shelter or cover is a prime factor. Black bears need thick cover -- not to hide from human beings -- but to hide from each other. Spatial limitations are met by adult bears killing young bears or running them out of the area. These young bears must keep moving around until they find an area vacated by the death of an adult or until they die. When food supplies are reduced by factors such as climatic fluctuations, competition becomes more intense. Some adult bears might temporarily move to seldom-used portions of their home range, sometimes many miles away, but most must live on what food is available in the area. These individuals may become thin, occasionally starve, or -- in the case of young bears -- be killed or forced from the area by more aggressive adults. In this way, the total bear population remains within the carrying capacity of the habitat.

In this activity, "food" becomes a "limiting factor" in a limited habitat. All possible conditions are not covered by the design of the activity. A variety of factors would have an influence in determining the actual carrying capacity of an area; however, by this simple illustration it is possible for students to quickly grasp the essential nature of the concept that any area will have a limit or carrying capacity for the numbers of any kind of animal the area can support.

The major purpose of this activity is for students to gain an understanding of the concept "carrying capacity".

Materials: five colors of construction paper
black felt pen
envelopes (one per student)
pencils
one blindfold
Procedure:

1. Cut the paper or poster board into 2"x2" pieces. For a classroom of 30 students, make 30 cards of each color as follows:
   - orange -- nuts (acorns, pecans, walnuts, hickory nuts); mark five pieces N-20; mark 25 pieces N-10.
   - blue -- berries (blackberries, elderberries, raspberries); mark five pieces B-20; mark 25 pieces B-10.
   - yellow -- insects (grubs, worms, larvae, ants, termites); mark five pieces I-12; mark 25 pieces I-6.
   - red - meat (mice, rodents peccaries, beaver, muskrats, young deer); mark five pieces M-8, mark 25 pieces M-4.
   - green - plants (leaves, grasses, herbs); mark five pieces P-20; mark 25 pieces P-10.

The following estimates of total pounds of food for one bear in ten days are used for this activity:

- nuts - 20 pounds = 25%
- berries - 20 pounds = 25%
- insects - 12 pounds = 15%
- meat - 8 pounds = 10%
- plants - 20 pounds = 25%
- 80 pounds = 100% in ten days

Keeping these figures in mind, make and distribute the appropriate number of food cards for your size group of students. There should be less than 80 pounds of food per student so that there is not actually enough food in the area for all the "bears" to survive.

2. In a fairly large open area, scatter the colored pieces of paper.

3. Have each student write his or her name on an envelope. This will represent the student's "den site" and should be left on the ground (perhaps anchored with a rock) at the starting line on the perimeter of the field area.

4. Have the students line up on the starting line, leaving their envelopes between their feet on the ground. Give them the following instructions. "You are now all black bears. All bears are not alike, just as you and I are not exactly alike. Among you is a young male bear who has not yet found his own territory. Last week he met up with a larger male bear in the big bear's territory, and before he could get away, he was hurt. He has a broken leg. (Assign one student as the crippled bear. He must hunt by hopping on one leg.) Another bear is a young female who investigated a porcupine too closely and was blinded by the quills. (Assign one student as the blind bear. She must hunt blindfolded.) The third special bear is a mother bear with two fairly small cubs. She must gather twice as much food as the other bears. (Assign one student as the mother bear.)"

5. Do not tell the students what the colors, initials, and numbers on the pieces of paper represent. Tell them only that the pieces of paper represent various kinds of bear food; since bears are omnivores, they like a wide assortment of foods, so they should gather different colored squares to represent a variety of food.
6. Student must walk into the "forest". Bears do not run down their food, they gather it. When students find a colored square, they should pick it up (one at a time) and return it to their "den" before picking up another colored square. (Bears would not actually return to their den to eat; they would eat food as they find it.) Pushing and shoving -- and competitive activity -- is acceptable as long as it is under control. Snatching food right out from under the blind bear or the crippled bear is natural -- but stealing from each other's dens is not. Remember that if bears fight (which they seldom do) they can become injured and unable to gather sufficient food; then they starve.

7. When all the colored squares have been gathered, the food gathering and hunting is over. Have students pick up their den envelopes containing the food they gathered and return to class.

8. Explain what the colors and numbers represent. Ask each student to add up the total number of pounds of food he or she gathered -- whether it is nuts, meat, insects, berries, or plant materials. Each should write the total weight on the outside of his or her envelope.

9. Using a chalkboard, compare the amounts gathered by all the children. Discuss how the three handicapped bears did.

10. Discuss the idea that a given unit of black bear habitat can only support a limited number of bears. Can carrying capacity change?

11. Wrap up with a discussion of the idea that any piece of land can support only so many plants and/or animals.

Off-site Pre-visit Activity:

Goals:
To introduce wetlands and their components.

Activities:
1. **Wetland Terrarium** - A terrarium will be delivered to the classroom prior to the visit. Children will be able to observe/explore the life found in the terrarium and the cycling of water and nutrients. A pH test kit, humidity test kit, and thermometer will also be provided. Students should test the terrarium for these factors, as well as test other areas for comparison (pH - tap water, coca cola, lemon juice, milk. Humidity - in classroom, outside, in bathroom with hot water running.) Students should keep note of these measurements, as well as their daily observations, in a journal that they bring with them to Pictured Rocks National Lakeshore.

2. **Wetland Models** - It's hard to tell, just by looking at wetlands, that they help filter silt and pollutants from water, help prevent soil erosion, and often reduce flood damage. But by building a simplified wetland model, you can demonstrate some of these important wetland functions.

**Materials Needed:**
- chalkboard
- oasis
- sponges
- cotton swabs
- twigs, grass
- glue
- scissors
- crayons/markers
- reference books
- small piece of indoor/outdoor carpet
- modeling clay
- roasting pans
- pine needles
- cardboard
- toothpicks
- weeds, soil
- paper/pencils
- jar of muddy water

Before you begin the activity, make a demonstration model. Here's how you do it:

1. Spread a layer of modeling clay in half of the roasting pan to represent land. Leave the other half of the pan empty to represent a lake or other body of water, such as a river or ocean.

2. Shape the clay so that it gradually slopes down to the body of water. (see diagram)
3. Smooth the clay along the sides of the pan to seal the edges. You can also form meandering streams in the clay that lead into the body of water.

4. Cut a piece of indoor-outdoor carpeting to completely fill the space across the pan along the edge of the clay (see diagram). The carpeting represents the wetland buffer between dry land and open water.

Begin the activity by asking the kids to list the characteristics of a wetland. Write their answers on a chalkboard or large sheet of easel paper. Take a group survey to decide which of the characteristics might apply to all wetlands.

Next show the group some pictures of different types of wetlands, including freshwater and salt marshes, freshwater swamps, mangrove swamps, and bogs. Have the kids think about the animals and plants that might live in each kind of wetland.

Now demonstrate some of the functions of a wetland using the model. Explain that wetlands, like all habitats, are very complicated natural systems. And scientists are still learning more about how they work. Scientists already know that wetlands perform some very important functions, such as filtering pollutants, reducing flood damage, and preventing soil erosion. (Scientists also think that some wetlands, at times, might help to recharge underground water supplies.) Explain that your model will demonstrate some of these functions in a very simplified way. Here are a couple of the functions you can demonstrate with the model:

**Flood Control:** Fit the piece of carpeting into the wetland area. Pour some water slowly on the land, as shown. Have the kids describe what happens. (Some of the water is slowed down by the wetland [carpeting]. The excess slowly flows into the body of water.)

Now remove the carpeting and water. This time pour the same amount of water on the model at the same spot and rate as before. Have the kids note any differences. (The water should fill the body of water much more quickly than before. That's because it's no longer buffered by the wetland. Explain that most wetlands are shallow basins that collect water and slow its rate of flow. This slowing process helps reduce flooding and also helps prevent soil erosion.)

In many coastal areas wetlands are drained and filled in, and houses or marinas are built right along the water. Without a wetland buffer, these developed areas are often subjected to severe flooding and erosion, especially during violent storms.

**Water Purification:** Pour the water out of the model and replace the piece of carpeting in the wetland. Pour some muddy water from the jar onto the land. Ask the kids to compare the water that ends up in the body of water with the water in the jar. (Explain that the soil particles are trapped by the carpeting, making the water in the body of water clearer.)

Remove the carpeting, pour out the water, and try the experiment again.
What happens without the wetland in place? Ask the kids why all the dirt particles end up in the body of water now. (The thick mat of plant roots in a wetland helps trap silt and some types of pollutants. Without a wetland, excessive amounts of silt and pollutants can end up in lakes, rivers, and other bodies of water.

After demonstrating some wetland functions, discuss how wetlands are important wildlife habitats, as well as important recreation sites for people.

Divide your group into smaller groups of about five each. Tell each group they will be making their own wetland models out of clay, using your model as an example. (Instead of using indoor/outdoor carpeting to represent a wetland, have them use Oasis [florist foam] molded into a very shallow basin. Then the kids can attach plants and animals to the model with toothpicks.) Provide reference books so the kids can see pictures of the different types of wetlands. Then have them decorate the models. Here are some ideas:
- For cattails, use cotton swabs painted brown, pieces of grass or toothpicks painted green with bits of brown clay stuck on top.
- Use long pine needles for reeds.
- Shape wetland creatures from clay or cut them from paper and glue onto toothpicks.
- Make trees by gluing pieces of green sponge onto twigs.

Taken from: NatureScope: Wading Into Wetlands.

3. Wetland Research - Using copies of articles dealing with wetlands provided, have the students research the character of wetlands and what makes them unique. Some students could focus on bogs, marshes, ponds, streams, swamps (though not found in this area), etc.
On-site Activity:
Goals:
To discuss the impact that people have on wetlands.
To introduce the nutrient and water cycling in wetlands.
To discover and discuss the importance of biological diversity in wetlands.

Materials Needed:
bug nets
white dish pans
magnifiers
pond life guides
bug zoos
marker
secchi disk

seine
bug boxes
dip nets
buckets
poster board
pH test kit
humidity paper

thermometers

Activities:
Students will discuss their observations of the wetland terrarium. After reporting the test data, the students will then take pH, humidity, and temperature readings on-site. They will also learn about and test turbidity. The ranger will discuss how these result differ from other aquatic areas.

Students will wear old shoes and pants and wade into the wetland. After a discussion of the variety of life found in a wetland, children will be given short time segments to investigate various areas of the wetland. Within specific defined boundaries, children will be encouraged to explore with the use of bug nets, strainers, bug boxes, seines, dip nets, etc. All items will be brought to a central location, where a discussion will follow addressing the items discovered.
Off-site Post-trip Activities:

1. To Build Or Not To Build - see attached activity.

2. Mapping Wetlands - Have students make a map of the local wetland areas.

3. Wetland Puppetry - Using socks or paper bags, students could make puppets that represent some of the creatures they saw or learned about at Pictured Rocks National Lakeshore. Students could develop a play about these wetland creatures and perform it for younger classes.

4. Traveling Trunk - available from USFWS

5. Wetland Mural - Students could design a mural with each student drawing one item found during their trip to PIRO. A short paragraph describing the item and its importance to the wetland could be placed by the picture, and the mural could be displayed in the school.

6. The Great Swamp Debate - see attached activity.
TO BUILD OR NOT TO BUILD

Objective: Students will be able to evaluate potential positive and negative effects from filling up and building on a wetland.

Method: Students role play individuals representing differing perspectives and concerns related to a complex issue.

Background: Hypothetical situation: The town of Painted Cliffs, population 900, is located next to the Manitou Wetland, a 400 acre haven for countless species of plants and animals. The mayor and city council of the big city of Minersville, located 44 miles west, have proposed to the state and city of Painted Cliffs that a regional airport be built over the site of the Manitou Wetland. In the Environmental Impact Statement written by the city engineers, the following information was identified.

The airport would serve all cities within a 100 miles radius. It would provide better transportation opportunities for business and industry, making an attractive economic climate to lure in new businesses.

Construction would entail draining the wetland and using rock-earth to fill in the area. Drained water would be dumped into Great Lake Woebegone. Although only 200 acres will be needed for the facility and runways, the remaining area will be drained and berms created to prevent flooding problems.

The airport construction would take five years to complete and would employ over 1,000 workers. After airport was finished, approximately 250 workers would be required to keep it running.

Wildlife would be affected in the following ways:
** 50% reduction in deer herd due to the removal of white cedars which are winter forage trees. Accidents due to increased traffic will also play a role.
** 80-90% reduction in small mammal populations on the site. Primarily due to loss of habitat, moisture and increased predation resulting from lack of cover.
** 75% reduction in songbird populations due to loss of habitat. Increase in starling and sparrow populations.
** nearly total loss of fish on the site. Runoff and water courses will be channeled, so only minnow populations could exist.
** eagles and merlins nesting in the area will leave because of a loss of nesting trees, increase in noise and too much human disturbance.
** insects population composition will change. Fewer species will remain, with increased numbers of individuals.
** 80% reduction in amphibians due to lack of moisture for eggs, removal of hiding places, etc.
** 95% reduction in timber stands. Trees will only be left along the perimeter to serve as a sound barrier.
** 100% loss of a threatened orchid wildflower that depends on the cool, moist, protected area.

The people of Painted Cliffs are concerned about the problems and benefits from the number of people that would come to their town during and after the construction of the airport. For example, they project the arrival of 1,000 workers plus their families during construction for five years and that 250 permanent workers plus their families would stay
after the airport was finished. They are concerned about effects on schools, sewage disposal, roads, homesites, property values, and the rural atmosphere, as well as police, fire and hospital emergency capacities. They see some potential benefits from the development, such as increased mobility, and a more attractive business climate.

Other impacts could include:
** Noise levels will rise due to airplane engine operation.
** Tax revenue will increase, aiding the economy.
** Air quality will be affected by the airplane exhaust.
** Property values of homes located away from the airport will increase.
** Traffic levels on area roads will increase.
** Tourism at the National Lakeshore located 100 miles west will increase.
** Sacred site of the Coyote indians will be destroyed.

Materials: role playing cards

Procedure:
1. Provide students with the background information. Generate an initial discussion with them about some of the possible costs and benefits from the construction of this dam, considering it from a variety of perspectives.

2. Ask each student to choose the role of an individual to become or represent for the purpose of this activity -- or assign roles randomly. Examples of roles are included. Establish a balanced variety of roles with people having conflicting values and concerns relating to the potential impacts of this dam construction. NOTE: Teachers have copied the role descriptions and cut them apart to pass out to students.

3. Ask students to prepare for their role, developing a short position paper for use as background for the dramatization of their role.

4. Arrange the classroom to represent a meeting room for the county council in the area in which the town of Painted Cliffs is located. Students will role-play their position and make a presentation to the five-member Painted Cliffs County Council and the Economic Development Commission. These individuals will ultimately make a recommendation to the D.N.R. (Department of Natural Resources) on a siting permit for the airport.

5. After all the students have made their presentations, ask the county council and EDC to render a decision.

6. Following the council's decision, have a brief class discussion to summarize the "pros" and "cons" that emerged from the students' presentations. Identify and list the benefits, if any, and costs or liabilities, if any, as a result of building the dam. Include effects on people, plants, and animals. The list of "pros", "cons", and effects can be listed visually on a chalkboard.

7. After the role play and class discussion, ask each of the students to write a brief essay describing his or her own personal recommendation for whether or not to build the airport. The students might expand their position papers, or "start from scratch" in writing their essays.
Roles:
1. Five people chosen as members of the County Council, the ruling branch of the county government. Historically have been pro development but are beginning to wonder if tourism really is always good.
2. Five people chosen as the Economic Development Commission - agency concerned with economic aspects along with the County Council that will decide whether to approve the airport.
3. E. Conomy - local banker who is concerned about the long term business potential of the area.
4. Still Waters - female tribal leader of the Coyote indians who is concerned about the loss of sacred ground.
5. Dean N. Are - member of Wildlife & Wetlands Division of state Natural Resources Department. Believes that once lost, wetlands can never be restored.
6. Cy N. Tist - retired chemist from the local factory. Concerned with the impact on natural resources.
7. Friendly Skies - President of Budget Airways, airline which proposes the make the new airport its "hub" of operations.
10. T.M. Burr - owner of a lumber company who cuts on the Manitou Marsh area.
11. "Sky" Soarer - president of the local bird club who has organized eagle-watching trips to the area every year for the last 15 years.
12. H.M. Owner - local homeowner excited about the potential increase in property values.
13. Cee Survey - owner of a survey company. If the airport is built, Cee will expand her business.
14. Great Scott - resides in a retirement village located next to the proposed airport. Concerned about noise levels.
15. Ima Binder - local librarian who sees great possibilities for school field trips to the airport facility.
16. F. Ed Express - private mail carrier who sees great possibilities for expansion due to the airport.
17. Icy Stars - astronomer who has always complained of a lack of night sky viewing area free from trees.
18. Bobbie Lawkeeper - local public safety officer and sheriff. Concerned about maintaining police protection, peace, health and safety with only a one person staff as the sole legal authority in the region.
20. Honey Graham - mother concerned about the increased traffic and crime that might affect her children. Also intrigued with the possibility of a PTA trip to Florida.
21. Split Rail - owner of Split Rail Fencing Company, the only local distributor of fencing and construction supplies.
22. Rach L. Carson - famous writer who moved to Painted Cliff because of the clean, clear air and drinkable water.

And so on! Be creative, make more if needed.

Adapted From Aquatic Wild
THE GREAT SWAMP DEBATE

Solving environmental problems isn’t an easy job. In this activity your group will have a chance to see that, like all environmental issues, wetland issues can be very complex.

Before you start, copy the questions provided under "Analyzing the Articles" on a chalkboard or piece of easel paper. Then pass out copies of the articles. Explain that the two articles on the page represent a real environmental controversy. The controversy began in 1959 when a transportation agency for New York and New Jersey, called the Port Authority, came up with a proposal to build a huge airport.

Tell the kids they'll find out later how the controversy was resolved. But first they'll be finding out more about it by reading the two articles you passed out and by answering some questions about them. Tell the kids that the articles aren’t real, and neither are the quotes or names given in them. But the circumstances we've presented concerning the proposed airport, along with the controversy it raised, are true.

When everyone has finished reading the articles, tell the kids to draw a line down the middle of a blank sheet of paper. Have them write "Article 1" at the top of one column and "Article 2" at the top of the other. Then give them time to answer the questions you wrote down. Explain that they’ll be answering questions two, three, and four for both articles. (Questions 1 and 5 are a little different from the others. Have the kids answer these questions on the other side of their sheets.)

While you're going over the answers, discuss why it can be difficult for people to find out all the facts about an issue. One reason for this is that the news sometimes presents information in a biased way. Ask the kids if they know what the word biased means, then ask if they think either of the articles is biased. (Both are. Article 1 doesn’t present any of the disadvantages of building the airport in the Great Swamp, and Article 2 doesn’t present any of the advantages. That is not to say that the information presented in either of the articles is necessarily wrong -- it's just incomplete.) But even though it may be difficult to know all of the facts, people still must make decisions --decisions that often affect other people, wildlife, and other natural resources. That's why it's important to try to find the least biased information available and to carefully consider all of the alternatives.

Now tell the kids what finally happened in the airport/Great Swamp controversy. Here is a synopsis:

The airport was never built. Instead, three nearby airports -- Kennedy, LaGuardia, and Newark -- were remodeled and/or expanded. The increased air travel that the Port Authority claimed would occur turned out to be not as dramatic as the figures predicted.

The Great Swamp Committee managed to raise enough money to buy the Great Swamp, and they donated it to the United States Government in 1964. It was established as a National Wildlife Refuge, National Natural Landmark, and Wilderness Area, which permanently protected it from development. Today it serves not only as a sanctuary for wildlife but also as a recreation area for bird watchers, hikers, nature photographers, and others. And biologists and other researchers use the Great Swamp as an outdoor "lab".

Taken from: Ranger Rick's Nature Scope: Wading into Wetlands
**NEW AIRPORT NEEDED IN JERSEY**

New York—The Port Authority, a transportation agency for New York and New Jersey, held a meeting here yesterday. The purpose of the meeting was to discuss plans for a new major airport to be built in the New York-New Jersey area. Ed Warren, a speaker for the Port Authority, explained that the airport will satisfy the growing need for more air travel services in the region.

The airport would need a large, level site, and one that's fairly close to New York City. "We've studied fifteen possible sites," said Warren, "and we think we've found the perfect location." Warren reported that the preferred site is in

Morristown, New Jersey. "It's nothing but a big swamp right now, but it will be very useful to a lot of people once the airport gets underway."

Port Authority figures show that the other major airports in the area will soon have more business than they can handle. In the next five years, business is expected to double. And in fifteen years, it could increase by as much as three to four times its current level.

Discount store owner John Landis commented on the favorable effects the airport would have on stores, restaurants, and hotels located near it. "Our business will increase—no doubt about it," he said.

"And that means more economic growth for Morris County."

Labor leader Tom Hines agreed. "Thousands of new jobs will open up when building begins," he added. "There will be new opportunities for planners and construction workers. And once the airport opens there will be even more jobs. The airport will need ticket checkers, air traffic controllers, maintenance workers, and many, many others. Plus, the new airport will attract all kinds of new businesses around it."

**Great Swamp IN DANGER**

Morristown, New Jersey—Scientists, naturalists, and concerned citizens met here yesterday to discuss the plan for a new major airport to be built in the Great Swamp of Morris County. The purpose of the meeting was to discuss what can be done to prevent the building of the airport.

Sam Brown, a long-time resident of Morris County, presented facts from several scientific reports. "The reports indicate that building the airport in the Great Swamp will cause more problems than it will solve," he said. According to the reports, the swamp area would be very difficult and costly to develop. "It's going to cost a lot of money to drain out the swamp water and keep it out," Brown said.

Increased noise and pollution to communities near the swamp were cited as other problems that the airport would cause. Many people also feel that existing roads will not be able to handle the added traffic to and from New York.

Tina Shore, another Morris County resident, pointed out that many homes, churches, and schools near the proposed airport site would probably have to be destroyed to make way for the huge airport. "It would affect thousands of people," she said. "And it might affect the water supply in the area."

University biology professor Judy Dayton talked about the history and biology of the Great Swamp. "The swamp is left over from the last Ice Age, when the area was part of a glacial lake. It's home to many plants and animals," Dayton explained. "Building the airport here would destroy their special habitat. And many wouldn't be able to adapt to new surroundings."

"I grew up with the swamp as my playground," said Allen Jones, a local high school student. "The Great Swamp has a lot to teach us all," he added.

RANGER RICK'S NATURESCOPE: WADING INTO WETLANDS

E-94
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*Audubon Society Nature Guides: Wetlands* by William A. Niering (Knopf, 1985)

*Life in and around Freshwater Wetlands* by Michael J. Ursin (Cromwell, 1975)

*Golden Guide Series: Pond Life* by __________

*Sierra Club Guide to the Northwoods*

**Children's Books**
*A Day in Teton Marsh* by Sally Carrigher.

*Between Cattails* by Terry Tempest Williams (Scribner's, 1985) K-5

*Dragonflies* by Oxford Scientific Films (Putnam, 1982) PS-5

*A Walk through the Marsh* by C. William Harrison (Reilly and Lee, 1972) K-5

*Wetlands: Bogs, Marshes, and Swamps* by Lewis Buck (Parent's Magazine Press, 1974) PS

*Year on Muskrat Marsh* by Bernice Freschet (Scribner's, 1974) PS

**Films, Filmstrips, Records, Slide Sets, and Videos**
*The Marsh Community* (PS-5) available in film or video from Encyclopedia Britannica Educational Corp., 425 N. Michigan Ave., Chicago, IL 60611

*Prairie Slough* (K-5) available in film or video from Coronet/MTI Film & Video, 108 Wilmot Rd., Deerfield, IL 60015

*Romp in the Swamp* is a record or cassette of 14 upbeat kids' songs by Bill Brennan, Do Dreams Music, PO Box 5623, Takoma Park, MD 20912

**Booklets, Kits, Maps and Posters**
*Wetlands* is an informative booklet by the Canadian Wildlife Service. You may obtain a single free copy by requesting it on official letterhead. Please send requests to Distribution Section, Canadian Wildlife Service, Environment Canada, Ottawa, Ontario K1A OE7

*Wetlands Adoption Kit* contains background information and tips on how to help preserve wetlands. To order write Izaak Walton League of America, Suite 1100, 1701 N. Fort Myer Dr., Arlington, VA 22209

Welcome to the Wetlands. Environmental Protection Agency Poster July 1988. Region 5, 230 S. Dearborn St., Chicago, IL 60604


Wetland Protection Guidebook. MI DNR Land & Management Division.

Wetland Plants of the State of MI. 1986, Porter B. Reed Jr., National Wetlands Inventory, St. Petersburg, FL.


Other Activity Sources
Environmental Education Report and Newsletter has published an issue entitled "Wetlands" which contains background information and activities for various ages. For a price list of this and other topics, write American Society for Environmental Education, PO Box 800, Hanover, NH 03755-0800

The US Fish and Wildlife Service has developed an activity guide on Freshwater Marshes. Also available is an issue pac on Wetland Conservation and uses. These guides contain posters, activity sheets, lesson plans, and background information. Most are suitable for primary through advanced kids. For information write National Institute for Urban Wildlife, 10921 Trotting Ridge Way, Columbia, MD 21044

Why Wetlands Education Kit contains slides, lesson plans, worksheets, posters, and activities for elementary educators. For information write Federation of Ontario naturalist, 355 Lesmill Rd., Don Mills, Ontario M3B 2W8
PART FOUR: REVIEW AND CONCLUSION
REVIEW

The process outlined here is only one method to accomplish the goal of tailoring park programs to the school users. This particular method has been found successful in many park units throughout the nation. One of the most important factors however, is knowledge of your capabilities and respect for the school professionals you work with. Beyond that, variations of this approach have every possibility of working as well or better than this one. Good luck in your pursuits.

The handbook, Programming for School Groups: An Interpreter's Guide, is a useful guide. Become familiar with its contents. Should you find that a variation of the curriculum incorporation process works well for your unit, please share that information with the Chief of Interpretation for the Midwest Region -- your experiences could provide valuable help to other units. Good luck!
References Cited:


7. Disinger, J. F., op. cit. p.84.


APPENDIX F

Checklist Evaluations
APPENDIX F

The Checklist Evaluation as Applied to the Three Test Sites

The structure of the descriptive evaluation was based on a checklist procedure developed by J. Millman. An example of the structure is found below:

<table>
<thead>
<tr>
<th>I. Preconditions of the Process</th>
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<tbody>
<tr>
<td>A. Need</td>
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<td>B. Market</td>
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<td>C. Dissemination Plan</td>
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<th>II. Effects of the Process</th>
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<tr>
<td>A. Indicators Used</td>
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<th>III. Utility</th>
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<td>A. Cost</td>
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<td>B. Benefit</td>
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Figure 4  Checklist Approach (abbrev.) from J. Millman, New Techniques for Evaluation

These evaluations are included in entirety.

Harry S Truman National Historic Site

Preconditions of the Process

Need for the Process

Prior to implementation of the process, school programs were fit into the schedule for public tours of the house. A twelve minute slide show preceded the tour, and the program through the house lasted approximately fifteen minutes. Since the Truman
Home is to be preserved, visitors are unable to touch anything and must stay on a line of gray carpet that leads through the home. Although the information given by the station interpreters was aimed at children, essentially the program was the same for young and old alike. The interpreters felt a frustration with the way the current program was being conducted. Some identified problems include: groups must see the slide program prior to the house tour and if the group is late the tour of the house must be canceled. Groups are rarely prepared for the experience and do not understand the need for preservation -- which leads to behavior problems. Many groups are too young to get anything out of the experience. Many high school groups are disrespectful of the house's contents, and it is doubtful that the experience is followed up afterward in the classroom.

The need for pre-trip preparation materials was apparent from groups' lack of preparation for the experience. In addition, many groups are unable to travel out to the Home -- so there was a need for an off-site program.

There was a need for the curriculum incorporation process, both by the staff and the students. The staff at the Truman National Historic Site needed the process to aid them in revising their educational offerings. The school groups needed the process to enhance the programs available at the site.

The process was needed at all levels of the educational program. The majority of school visitation to the Home was from fourth graders studying Missouri history, with the second largest clients being high school groups. Eventually, all grade levels will need to be addressed with pre-site preparation materials and off-site programs. As
facilities become available for on-site presentations, the on-site program will need to be revised to address the student's needs. Current staffing and funding does not provide for all these areas to be addressed at once however, so the focus was to be an off-site program geared for fourth grade, portions of which can be utilized as a pre-trip package. This first step was to be in place by Fall 1991.

The expansion of educational offering through the curriculum incorporation process was needed primarily because the Truman Home competes with a variety of other organizations providing educational opportunities for students on Truman. These include: Truman Library and Museum, the Jackson County Courthouse, the Independence Train Depot, and others. In order for the programs at the Home to be attended and considered as valuable as these other resources, it was necessary to apply a process that would assure teacher usability.

The full value in the process was in the development of a comprehensive package that could stand on its own as an off-site program, but could also be used as a stepping stone to a tour of the Home. This program would present aspects that would compliment visits to other historic Truman sites as well. When done completely, the program infused the historic aspects of Truman into other curriculum areas and was easily included into a cramped lesson schedule.

**Market for the Process**

Major users of the facility were schools from Independence, Blue Springs, and Kansas City. Visitation was also drawn from Liberty, St. Joseph, Columbia, and other
areas. Being a large metropolitan area, there was a vast audience for such educational outreach.

At the time the process was undertaken, over 2,500 children visited the site each year. Constraints in personnel limited the on-site numbers. Outreach had the potential of greatly increasing this number. Furthermore, once an educational program was developed, there was a greater possibility of justifying an increase in the interpretive staff numbers.

Dissemination of the Process

For the first season, the out-reach program was to be selectively advertised at area schools and through the teachers involved in the process. As the staffing expanded and program offerings increased, an educational brochure was to be developed.

Problems were envisioned related to staffing constraints. As the program popularity expanded, it would be necessary for the current system to be changed to accommodate those demands. Also, since no evaluation process was in place prior to the process, it would be difficult to assess the true effectiveness of the process quantitatively.

Effects of the Process

Indicators Used in the Evaluation

Indicators of the intended process outcomes were identified to be: Students would be prepared for the experience at the Home and problems with disregard for preservation
would be minimized, schools unable to visit the site would gain an understanding and appreciation of the Truman Home, and schools would feel that education is a focus of Harry S Truman National Historic Site.

The characteristics of these indicators are difficult to measure. The ability to diagnose the strengths and weaknesses of the indicators depend, in large part, on the ability of the interpreters to assess the preparation of the students, their attitude/behavior in visiting the site, etc.

Side effects of this process were discussed. The attempt to develop new programs would involve teachers. There was a potential that staffing constraints would limit the availability of the program. If these limitations were to greatly impair the teachers’ demand for the program, the teachers would become frustrated and cease to attempt to incorporate the Truman Home in their instruction plans. If this should occur, the indirect effect of the process would have done greater harm than not undertaking the process at all.

Every stage of the process was observed by all members of the team.

**Causative Claims**

There was no testing to affect the validity of the causal claims. The test piloting of the program did include selection of schools. The selected schools were those who had been chosen to provide input in the process -- based on grade level. Of the nine test schools, six had visited the site in the past, three had not. Half of the schools were from the Independence area, and the rest represented a spread from the surrounding districts.
From discussion with the teachers, a spread of economic levels was also apparent. Although this sample was in no means random, no obvious bias was observed. However, since the program was to be offered city-wide next year, the validity of the causal claims of the process was not threatened.

Generalization of Results

The administration of this process was, in itself, a field test of the process. The conditions present at this location typified the conditions present at many other historical sites.

The effects of the process were likely to last as long as the programs continue to be curriculum based. As the curriculum changes and the focus of education changes, the process would need to be re-applied to assure the programs do not become out-dated.

Analysis of Data

Since staffing constraints resulting from the loss of one interpretive staff position limited the feasibility of running the developed programs, it is difficult to discuss the treatment of performance data. By April 1992, the off-site program was conducted once and the pre-visit packet was used twice. In each case, interpreters reported that the programs were received much better than before. Students visiting the site were well-behaved and had an understanding of what the experience would entail. Because of the small sample, it is impossible to make a direct correlation between the behavior patterns observed and the revised programs. Conducting the off-site program, although only
once, has enabled one school to be exposed to the educational programming at Harry S Truman National Historic Site that would not otherwise have been able to visit the site.

The magnitude of the effect of the curriculum incorporation process is also impossible to quantify because of staffing constraints. Fewer educational programs have been offered in the past year than other years -- that is, however, directly related to limits in personnel and not in the demand for the programs. The demand is greater than prior to the institution of the process, but this is directly related to the number of schools contacted to help in the process, and not a result of the effectiveness of the programs.

Attention had been focused on the soft data available on the performance of the process, as little hard data (i.e. written evaluations) is currently available. Two written evaluations have been completed by teachers, and an evaluation from the staff has been received. These evaluations, though few in number, are overwhelmingly positive, with few weaknesses and recommendations for change being provided.

Teacher comments on the pre-visit packet and site visit indicate that the various components made a cohesive package. Comments such as the following were collected:

"The type of information given was wonderful. The park rangers exhibited enthusiasm and welcomed students questions and comments. I used all the materials provided. We acted out parts using role playing. The crossword was used as an enrichment activity and as it reviewed so much they had learned. My class thoroughly enjoyed our unit on Harry Truman. The field trip was a great culminating activity. The reinforcing of concepts presented will enable students to remember! The class seemed to develop a sense of pride in our state, county, and helped them identify with a time gone by, but a man for all time!"

These comments were accompanied by an evaluation identifying no weakness in the materials/programs provided, and with no recommendation for improvement. For the off-site program, teacher feedback indicated that the provided program/materials were
satisfactory to excellent for use in the classroom. Nearly all the provided activities were used, and no weaknesses or recommendations for improvement were identified.

Utility of the Process

Cost of the Process

Direct costs of the process consisted of minimal printing costs. Local phone calls, use of computer resources, printing of program packets, etc. were covered in the standard operation of the facility. Therefore, there were no direct costs associated specifically with the curriculum incorporation process.

Opportunity costs of the program consisted only of work time devoted to the process. This involved 5 staff members for a total of 42 hours. Since such a large number of staff members contributed to the effort, no projects were delayed from completion. Thus the entire opportunity costs were 42 staff hours. Had the number of staff involved in the process been smaller, it is possible that the indirect opportunity costs would have been greater. Naturally, the time spent by the consulting teachers would impact the opportunity costs if they had been paid. However, since their time was donated in-kind, this cost is also avoided.

When analyzing who pays for the curriculum incorporation process when instituted by a federal agency, taxpayers ultimately pay for the process. Federal tax dollars support the work of the National Park Service.
Benefit of the Process

The costs were properly synthesized, however the benefits of the process are not fairly represented due to the personnel constraints of the past year.

The social and educational significance of the effects of the programs developed are that students obtain a more complete understanding of the character of President Harry Truman, and the importance of family and the Independence community in his life. Students also gain a greater understanding of the cultural significance of the time period to their current lives. Although unable to make a definitive causal claim from the process to this result, it is clear that the programs that were developed are more tightly focused on the goal of educating about the character and family life of President Truman. Therefore, the process can be credited with some of the social and educational significance of the effects of the programs.

Currently the value of the process has not been recognized in relation to alternative processes. However, evidence hints that this value will be recognized in the next academic year when staffing is again at 100%.

The potential utility of the process is great. It will be important however, to protect against the staffing problems experienced during the first implementation of the curriculum incorporation process.
St. Croix National Scenic Riverway

Preconditions of the Process

Need for the Process

The St. Croix National Scenic Riverway incorporates the river corridors of the Namekagon and St. Croix rivers. Since the St. Croix river serves as a boundary between Minnesota and Wisconsin, educational programming effects two state systems. The riverway is divided into three districts -- the Northern two being located in remote, rural areas and the lower one within 1/2 hour from the large urban center of Minneapolis/St. Paul.

Prior to the application of this process, programming on-site was very limited and fairly hit and miss. The only off-site programs offered were presented in conjunction with a local state park.

The lower district, being close to the capital of Minnesota, draw students from areas that are already provided with many field trip possibilities -- museums, nature centers, government offices, etc. Since education was the current mission of the units, it was crucial that programs offered achieve what the teachers wanted -- and fit into the curriculum. Otherwise, schools would be likely to visit other sites.

In addition to the education goal, the riverway suffered from an identity crisis, with the public often associating the area and its staff as DNR rather than NPS. A major goal of the education program was to make the children aware of the St. Croix’s role in the National Park System.
The staff at the Visitor and Interpretive Center stations at each of the four districts needed the process to develop a sound education program that could compete with the other educational opportunities available to students in urban areas.

Eventually a program would be developed to run each season: fall, winter, spring. For now, the focus immediately was fall and spring with two program areas -- river ecology and logging history. The target audience was to be 4th graders. Staff would work on a river in winter program the following year.

The curriculum incorporation process was needed because there were no education programs in place and with the large distances involved in this area, schools needed real justification for coming to the facility.

The full value of the process would be to create a comprehensive education program at the St. Croix National Scenic Riverway that would serve students in two states on a line 250 miles long. The definitive needs of the site were to establish knowledge of the park service's presence and the importance of the river corridor to present day use, as well as its importance historically to the settling of the nation. If the process accomplished all of its goals, the four districts of the unit would be involved in educational programming each week of the school year. These contacted students would convey the message of the park service to their family and friends and would encourage the wise use of the park resources. In order for these objectives to be met, it was crucial that the process meet area educators needs to encourage them to participate in the St. Croix National Scenic Riverway educational programs.
Market for the Process

The majority of the potential users were the school districts of Grantsburg, Wisconsin and Pine City, Minnesota. However, several other districts in Wisconsin, including Trego, Cable, Prescott, St. Croix Falls, Shell Lake, Spooner, Hayward, as well as districts in Minnesota, including Rush City, Taylor Falls and St. Paul, were potential clients. All of these districts had the Namekagon and St. Croix rivers in their backyard, so to speak, and had the potential to benefit from programs developed there.

Annually over 800 school children use the park resources. With the number of districts that the unit covers, the potential was great. Ideally, around 3,000 children would participate in the programs offered each year.

Dissemination Plan of the Process

Initially, the developed programs would be offered to the schools consulted during step three of the process (talking with teachers). However, as these programs proved to be successful, site interpreters would contact area school systems. A mailing of program listings would also be a possibility.

There were no implementation and delivery problems identified for the process itself. However, for the programs themselves there were several constraints. First, the location of the program was dependent on the water and bank conditions at the approved landings. If the water was high or the bank conditions were adverse, it would be dangerous to conduct the stream program. Also, the logging program was dependent on
the artifacts collected. If these materials were not available, the program would be seriously affected.

Effects of the Process

Indicators Used in the Evaluation

Indicators of the intended process outcomes were that students would have an appreciation of the role of the National Park Service on the riverway, possess increased knowledge on the importance of the riverway, and have a feeling of ownership/stewardship for the resource. Additional indicators of the process would be greater use of the NPS resources by local schools, and use of NPS materials and programs to accomplish the school curriculum.

The characteristics of these indicators could only be assessed by the interpreters through teacher evaluations as well as behavior/attitudes of the students.

Side effects of the process were reviewed. Undergoing such a process meant including members of the education community. By encouraging input, the unit was pledging that a program would be made available to them. This being the case, the potential was there that staff availability would not be able to fulfill program demand.

Every stage of the process was observed by the primary staff members, Connie Potratz-Watson and Terry O'Halleran. The researcher was only available for program development following initial teacher contact on the River Ecology program, and for the pre-program development of the Logging History program.
Causative Claims

There was no testing to affect the validity of the causal claims. The test piloting of the program did include selection of schools. The selected schools were those chosen to provide input in the process. The selection of these schools were based on grade level and close proximity to the site. The sample was not intended to be random, and an obvious bias was present. However, since the program would be offered to all interested schools next year, the validity of the causal claims of the process was not threatened.

Generalization of Results

The administration of this process was in itself, a field test of the process. The conditions present at these locations typified the conditions present at many other units. This implementation however, may not be able to be generalized to more urban populations.

The effects of the process were likely to last as long as the programs continued to be curriculum based. As the curriculum changed and the focus of education changed, the process would need to be re-applied to assure the programs did not become out-dated.

Analysis of Data

*The Rivers Are Alive* was conducted for the entire fourth grade at the Grantsburg Public School System on September 9-12, 1991. The interpreters went to the schools for a pre-visit off-site on Monday, and one class visited the river on the following three days. The students used pre-trip activity guides prior to visiting the riverway. The
resulting evaluations indicated that the only improvement could be to prolong the time each class spent on the riverway. Comments included, "Our students enjoyed this program. We received positive comments from parents and teachers." and "My evaluation is high because this program worked!!". Performance data was appropriately treated, but the evaluation is limited to a small sample. However, since there was no history of partnership with school systems prior to this, and no history of educational programs being conducted on the St. Croix NSR, a conclusion may be drawn that this program (and the process that created it) did indeed work.

The magnitude of the effects of the process are hard to determine in the short-term. Certainly it can be stated that students left with an appreciation of the riverway, and a better understanding of the role of the St. Croix NSR in the National Park System. However, to assess the full magnitude would necessitate more runs of the program. The Pine City, MN school system is scheduled to participate in the program late this spring, as well as Shell Lake, Spooner, and Hayward, districts in Wisconsin. Thus, further data will be collected.

Attention was focused both on the hard data (written teacher evaluations) and the soft data (observations of behavior and knowledge levels exhibited by students at the riverway). Based on both of these types of data, indicators point to success of the program and the curriculum incorporation process.
Utility of the Process

Cost of the Process

Direct costs of the process consisted of minimal printing costs. Local phone calls, use of computer resources, etc. were covered in the standard operation of the facility.

Opportunity costs of the program consisted only of work time devoted to the process. This involved 3 staff members for a total of 38 hours for the River Ecology program, in addition 3 staff members spent a total of 20 hours developing the Logging History program. This program is scheduled to be piloted in the winter of 1992-93. Undertaking this project necessitated the delay of other projects deemed of lesser importance to the riverway. Since this process was undertaken during the slack time of middle summer, normal productivity was not impaired. Therefore, opportunity costs only include the staff time devoted to the task.

When analyzing who pays for the curriculum incorporation process when instituted by a federal agency, taxpayers ultimately pay for the process. Federal tax dollars support the work of the National Park Service.

Benefits of the Curriculum Incorporation Process

The costs were properly synthesized, however, the benefits of the process are not fairly represented due to personnel constraints that affected the ability to market the Rivers Are Alive program and the development of a logging history program. These constraints were due to forced furlough and personal injury. Both primary staff members are subject to one month furlough each year during the winter season. Also, Connie...
Potratz-Watson suffered an injury that took her off duty as of January 1992 for a period of a year. As a result of these problems, the logging program was not able to be developed as anticipated this winter. Also, the ability to run the Rivers Are Alive program in the Grantsburg region has been severely impaired. Although four districts are scheduled to participate in late May (when the water warms up again), and all of the River districts plan to market the program next fall, this data will be collected beyond the scope of this study.

The social and educational significance of the effects of the program developed are that teachers and students participating in the programs have an appreciation of the NPS's role on the riverway and have greater knowledge of the importance of the resource. Although a feeling of ownership is hard to evaluate, one can speculate that the children connected in some way to the resource and this connection may stimulate such stewardship. It is certainly easy to document that the riverway is receiving greater use by schools as a result of the process. Indeed, ties made between interpretive staff and administrators/teachers have led to the development of programs by request in over 4 districts (these programs were not linked to curriculum, and were merely interpretive lessons designed to supplement the current classroom theme) - a connection that had not previously existed.

Currently the value of the process has not been recognized in relation to alternative processes. However, evidence hints that this value will be recognized in subsequent academic years.
The potential utility of the process is great. It will be important however, to protect against the staffing problems experienced by expanding the development team to include non-furlough employees.

**Pictured Rocks National Lakeshore**

**Preconditions of the Process**

**Need for the Process**

Previously school programs were developed at the time the program was requested on any topic desired. No comprehensive plan had been developed to address the educational needs of the K-12 students. It was an identified goal of the site to encourage more cooperation between the park and the school systems. In order to accomplish this task, a grant was acquired to fund a staff position with the responsibility to facilitate cooperation between the schools and the site. Since the position was not anticipated to start until May, 1992, there was a need to begin to lay the groundwork for educational programming while the school district interest in the position was fresh. Since a handicap-accessible trail had just been completed, the staff decided to highlight this area with its school programs.

There was a need for the curriculum incorporation process, both by the staff and by the schools. The staff at Pictured Rocks National Lakeshore needed the process to facilitate the development of formal program offerings, an undertaking they had been hesitant to start. The schools needed the process to enable them to use the Lakeshore to its full potential. The schools had also been involved in the grant development process.
for an additional staff position, so their interest level in working with the Lakeshore was high.

The process was needed at all levels of the education program. The majority of school visitation is from 4-6th grade students and pre-school student groups. Therefore, rather than focus on one particular grade level, the same subject was applied to each grade level for the overall development of three programs (K-1, 2-3, 4-5). This was to be in place by Fall, 1991.

The expansion of educational offerings through the curriculum incorporation process was needed primarily because the resource is not well used during the off-season, and schools in the area are looking for such educational resources to tap into.

The full value in the process was in the development of three educational packages that encouraged the use of Pictured Rocks National Lakeshore as well as promoted wetlands and the newly development wetlands boardwalk. When done completely, the programs infused wetlands hands-on exploration easily into standard subject curriculum.

Market for the Process

Major users of the facility are Deerton, Munising and Superior-Central Public Schools. Visitation could also be drawn from other areas such as the Marquette and Escanaba Public Schools. Although not a large metropolitan area, the school districts were relatively untapped for field trip possibilities. Thus, Pictured Rocks National
Lakeshore had a great capacity for reaching a number of students currently not being served. At the time the process was undertaken, only 200 students a year were visiting the site.

**Dissemination of the Process**

For the first season, the programs were to be selectively advertised to schools participating in the program development. The following year, the position funded by the grant would be responsible for promoting the program throughout the counties served.

Anticipated problems related to the schools ability to transport students to the site, as the Upper Michigan area is economically depressed. Also, since limited program evaluation was done in the past, it would be difficult to assess true effectiveness of the process quantitatively.

**Effects of the Process**

**Indicators Used in the Evaluation**

Indicators of the intended process outcomes were identified to be: students would have a greater understanding of wetlands and their importance, students would have a positive experience in a wetland, and would be encouraged to return to Pictured Rocks National Lakeshore on their own with their parents. Schools would also use the resources available at the Lakeshore to a greater extent then prior to the implementation of the process.
The characteristics of these indicators are difficult to measure. The ability to diagnose the strengths and weaknesses of the indicators depends on the ability of the interpreters to assess the students attitude/behavior and knowledge of concepts.

Side effects of this process were discussed. The attempt to develop new programs would involve teachers. There was a potential that staffing constraints would limit the availability of the program. Also, transportation costs could inhibit the schools ability to utilize the programs. If these limitations were to greatly impair the teachers' demand for the program, the teachers would become frustrated and cease to attempt to incorporate the Lakeshore into their instruction plans. If this should occur, the indirect affect of the process would have done greater harm than not undertaking the process at all.

Every stage of the process was observed by the team.

Causative Claims

There was no testing to affect the validity of the causal claims. The test piloting of the program did include selection of schools. The selected schools were those chosen to provide input in the process -- based on grade level. Both schools had visited the site previously, but the selection of teachers included a mix of those using the resource and those who had not. From discussion with the teachers, a spread of economic levels was not apparent. Although this sample was not random, no obvious bias was observed, as there is no obvious segmenting of the population. However, the possibility of bias was present and the validity of the causal claims of the process might be threatened.
Generalization of Results

The administration of this process was, in itself, a field test of the process. The conditions present at this location typified the conditions present at many other historical sites. The effects of the process were likely to last as long as the programs continue to be curriculum based. As the curriculum changes and the focus of education changes, the process would need to be re-applied to assure the programs do not become out-dated.

Analysis of Data

Following the development of the programs, the cost of materials needed was determined to be a problem. The programs were not conducted during the Fall of 1991 for that reason. In December of 1991, a grant was obtained for the purchase of these materials. The staff at Pictured Rocks was in the process of hiring the Education Specialist funded in the grant previously mentioned. Due to the perceived staffing constraints, these programs were not scheduled to be conducted until late May 1992, after the Education Specialist began employment. Therefore it is difficult to discuss the treatment of the data, since teacher evaluations are lacking. Staff evaluation of the process shows a great deal of satisfaction with the programs developed. Feedback from the 12 teachers consulted for the process, indicated satisfaction with the programs as written. Satisfaction with the programs, as implemented, however is yet to be determined. Unfortunately, such data will not be collected within the scope of this project.
Utility of Process

Cost of Process

Direct costs of the process consisted of minimal printing costs. Local phone calls, use of computer resources, printing of program packets, etc. were covered in the standard operation of the facility. Therefore, there were no direct costs associated specifically with the curriculum incorporation process.

Opportunity costs of the program consisted only of work time devoted to the process. This involved 2 staff members for a total of 53 hours. Since such a small number of staff members contributed to the effort, several projects were delayed from completion. Thus the entire opportunity costs were greater than 53 staff hours. However, this time yielded the development of three new programs -- which achieved a prime objective of the Lakeshore. Naturally, the time spent by the consulting teachers would impact the opportunity costs if they had been paid. However, since their time was donated in-kind, this cost is also avoided.

When analyzing who pays for the curriculum incorporation process when instituted by a federal agency, taxpayers ultimately pay for the process. Federal tax dollars support the work of the National Park Service.

Benefit of the Process

The costs were properly synthesized, however the benefits of the process are not fairly represented due to the lack of implementation during the past year.
Currently the value of the process has not been recognized in relation to alternative processes since the programs have not been implemented. However, evidence hints that this value will be recognized in the next academic year when staff are committed to the implementation of the programs.

The potential utility of the process is great. It will be important however, to protect against the staffing problems experienced during the first implementation of the curriculum incorporation process. The process at Pictured Rocks National Lakeshore was undertaken without sufficient staff commitment to the implementation of the programs. Although the attempt was to utilize the excitement generated by the development of a new staff position, the lack of action since the programs' development has likely contributed to a cooling of this excitement. It is hoped that once the programs are offered that the schools will participate eagerly, and not be discouraged by the lack of action previously.

This unit illustrates a failure to properly identify problems with undertaking the process at this site. The staffing situation was not perceived as a sufficient problem to warrant the abortion of the curriculum incorporation process. In addition, the staff's commitment to this process was not assessed appropriately, contributing to the lack of implementation of developed programs. This indicates that it is also important to assess organizational support, and conflicting priorities when doing the preliminary data collection used to assess whether or not to undergo the process.
APPENDIX G

Sample Teacher Evaluation Sheet
HARRY S TRUMAN NATIONAL HISTORIC SITE
Educational Programs Evaluation

Teacher's name: ________________________________

School: ______________________________________

City & State: __________________________________

Programs Attended (Check all that apply)

___ In school program
___ In park program
___ Slide show

Date of visit: ________________ Grade: ________________

Reservation System

1. How did you find out about this program? ________________

2. Was the reservation system convenient? ________________

3. What resources did you use to prepare your group other than those supplied in the pre visit package? ________________

Program: Please circle your response: 1(high/agree) 2(medium/average) 3(low/disagree)

<table>
<thead>
<tr>
<th>Relevance to your curriculum</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of presentation</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Appropriateness of activities</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Methods of presentation</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Appropriateness for class size</td>
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<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Please comment on the strengths and weaknesses of this program. ________
**Support Materials:** Please circle your response.

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<thead>
<tr>
<th>Overall</th>
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</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>Quality</td>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Interest level</td>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Age appropriateness</td>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Accuracy of information</td>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Background Information</td>
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<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pre-visit Activities</th>
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</thead>
<tbody>
<tr>
<td>Usefulness</td>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Quality</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Age appropriateness</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Interest level</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Please list the activities used.__________________________________________

How much time were you able to spend preparing for this program?_____

<table>
<thead>
<tr>
<th>Post-Visit Activities</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Usefulness</td>
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<td>Age appropriateness</td>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Interest level</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Comments:**

Please complete and return at the time of your program or mail to:

Harry S Truman National Historic Site  
223 North Main Street  
Independence, MO 64050-2804