

A WAYSIDE EXHIBIT PLAN
FOR
APOSTLE ISLANDS NATIONAL LAKESHORE

by

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Professor! Professor! "How many pages do I have to write in order to complete a Master's thesis project?"

"Whatever it takes."

"Is that all?"

As pages began to accumulate in this project I realized the true impact of those words. For the last 2 years this project has been my life and work, but is not my work alone. In truth the project involved a collaboration of minds that guided, advised, counseled and provided technical expertise when needed.

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PART I - AN INTEGRATION OF WAYSIDE EXHIBITS INTO
THE OVERALL INTEPRETIVE PROGRAM

CHAPTER 1 - INTRODUCTION

OUTLINE OF WAYSIDE EXHIBIT PLAN

This document will provide a plan for integrating wayside exhibits into the overall interpretive programming at Apostle Islands National Lakeshore. Waysides will complement existing programming and play a key role in enhancing the visitor's experience at the islands.

Several "key" stories of the Apostle Islands will be highlighted in the wayside exhibit plan. Interpretive messages will be communicated through a thematic structure, and will be targeted to specific audiences through wayside exhibits.

In Chapter 2 the reader will be oriented to the physical geography of the Apostle Islands and be informed about how they were established as a National Lakeshore. A resource inventory is outlined and was compiled by careful examination of the 1982 Apostle Islands National Lakeshore Statement of Management and the 1985 Annual Statement for Interpretation and Visitor Services.

Chapter 3 focuses on the interpretive mission statement and its subsequent goals and objectives as stated by the Chief Naturalist in the 1985 Annual Statement for Interpretation and Visitor Services. In addition project goals for the successful completion of the wayside exhibit plan are discussed and outlined by the author.

Chapter 4 discusses trends and demographic profiles of visitors vacationing at the Apostle Islands. Due to the lakeshore being relatively new (established in 1970), visitor motivation, perceptions, and expectations have yet to be thoroughly investigated. Direct visitor surveys, questionnaires, or interviews are only permitted with the approval of the Office of Management and Budget. A substantial amount of justification for questioning the public is required before permission is granted. However, during the summer of 1984 and 1985, unobtrusive or indirect observations and questioning were carried out under the direction of the Chief Naturalist.

Chapter 5 begins by outlining existing programming at the Apostle Islands. The remainder of the chapter

is a compilation of material presented in preceding chapters. The delivery matrix is used to bring themes, messages, audience, and interpretive media together into a comprehensive whole for interpretive programming at Apostle Islands National Lakeshore. Wayside Exhibits will be underlined in order to highlight the role they will play in the overall interpretive programming.

Chapter 6 provides an evaluation scheme that will test the effectiveness of the wayside exhibit plan. The evaluation will be based on a recommended set of evaluation objectives.

THE PLANNING PROCESS

Plans must take into account visitor desires and expectations for visiting a site (Blahna and Roggenbuck, 1979). With this knowledge, planners can implement programs that are compatible with goals and objectives set by the governing agency.

The planning proposal draws on two communication models for interpretive planning. These are the S-M-R communication model as a framework for interpretive planning by Peart and Woods (1976) and the Information Flow Model as described by Capelle (1984).

The Peart and Woods communication model addresses five key questions. They are: Why? What? Who? How-When-Where? and So What? (Figure 1).

1) Why?

A hierarchy of well-defined goals and objectives that reflect the interpretive mission statement ensures that meaningful and valid communication efforts will occur. With this hierarchy system, planners are more apt to remain on track and persist on their missions.

2) What

To identify those resources, sites and stories most in demand for interpretation. A general overview of these natural, cultural, and historical resources is covered later in this document.

3) Who?

Visitors enter our parks, forests, and nature reserves with a diverse background of experiences and interests. Lumping visitors under a "general public" category is a disservice to specific visitor needs. Why are visitors coming to the Apostle Islands? Who are these visitors and what is their place of origin? What do visitors expect upon arrival to the Apostle Islands? Are these expectations being met? By asking such questions, planners are able to develop definable visitor receiver/user groups and communicate interpretive messages through a variety of interpretive media. Understanding visitor receiver/user groups and trends leads to an effective communication effort.

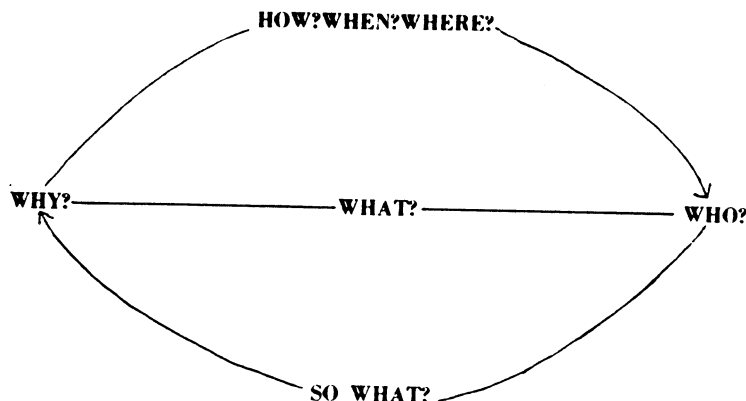


Figure 1. A framework for interpretive planning showing communication lines from sender to receiver. (From Peart and Woods, 1976).

4) How? When? Where?

Interpretive media and activities (How?) have been prudently chosen at certain times (When?) and at specific site locations (Where?). Due to the variety of activities, an interpretive delivery matrix was compiled that logically determines how, when, and where messages will be interpreted to targeted visitor groups. Wayside exhibits have been chosen as a complementary approach to existing interpretive services that will contact a broader array of visitor groups.

5) So What?

Evaluation tied to goals and objectives brings planners full circle to their ultimate mission. In times of cutbacks and tightening budgets, an evaluation scheme will help in the justification of interpretive services and in maintaining monetary support. Thus, it becomes imperative to know if messages are being effectively communicated and received by definable visitor receiver/user groups.

In addition to the Peart and Woods communication model, the Information Flow Model will be incorporated into the delivery matrix to provide a coherent and sound framework for the plan (Figure 2). In the following section the five levels of this model are identified and discussed to function at the Apostle Islands.

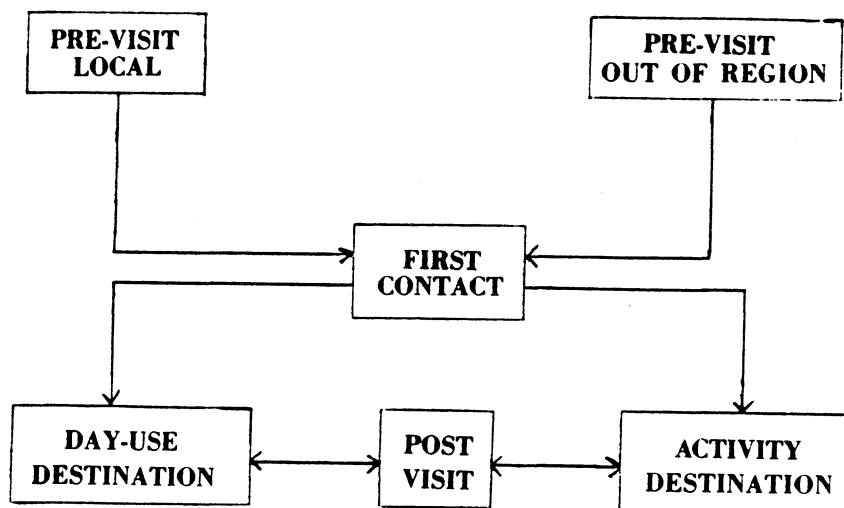


Figure 2. The information flow model.
(from Capelle, 1984).

1) Pre-visit: Visitor expectations will be set

The Apostle Islands sends out informational packets including area maps, interpretive programming pamphlets, and a general brochure, describing the lakeshore resources to potential visitor groups (i.e. boaters, schools, organizations, etc.).

- 2) First-site contact: "We're glad you're here and we have something special to show you"

The first-site contact is intended to orient the visitor to the resource. At the Apostle Islands, this is accomplished in a number of ways. Twelve of the twenty islands have contact stations in which visitors will become aware of lakeshore facilities, resources and programming. In addition, a mainland visitor center in Bayfield allows the greatest exchange of information flow, moving from lakeshore personnel to the visitor.

- 3) Day-use destination: "What activities can be done in one day"

A private concessionaire runs several excursions to the islands that allows visitors a closer look at the natural and cultural resources of the area. The visitor is allowed to step off the boats and spend a few hours on the islands. It is during these times that day-users have the greatest possibility in reading and viewing the wayside exhibits or visiting with an island naturalist.

- 4) Activity destination: "What special activities or opportunities are available during a visit"

These activities are targeted to the visitor having more than a day to spend at the Apostle Islands. Interpretive trails, viewing areas, campgrounds, significant cultural areas (i.e. quarries), and programming sites have been developed in direct response to the needs of the extended user. Wayside exhibits will have their greatest impact upon the extended user and communicate information not easily obtained at other sites around the archipelago.

- 5) Post visit: "What can the visitor take home"

Books, maps, and posters depicting and describing the lakeshore and surrounding area are available for sale at the mainland visitor center in Bayfield. In addition, free trail brochures, booklets, and checklists are available for visitors to take home. It is through these materials that visitors are able to re-live and evaluate their time spent at the Apostle Islands.

SUMMARY

These two plans as described above will lead and guide the development and design of wayside exhibits that effectively communicate meaningful information to the lakeshore visitor. The remaining chapters in Part I will focus on the specific components of the Peart and Woods communication model which will all come together in the delivery matrix of this document.

CHAPTER 2 - SITE ESTABLISHMENT AND RESOURCE INVENTORY

SITE ESTABLISHMENT

Set in the clear blue waters of Lake Superior the 22 Apostle Island chain covers 520 square miles. They are located off the tip of the Bayfield Peninsula in northern Wisconsin. 20 of the 22 islands, and a 12-mile segment of the mainland lakeshore comprise the present day Apostle Islands National Lakeshore (Figure 3).

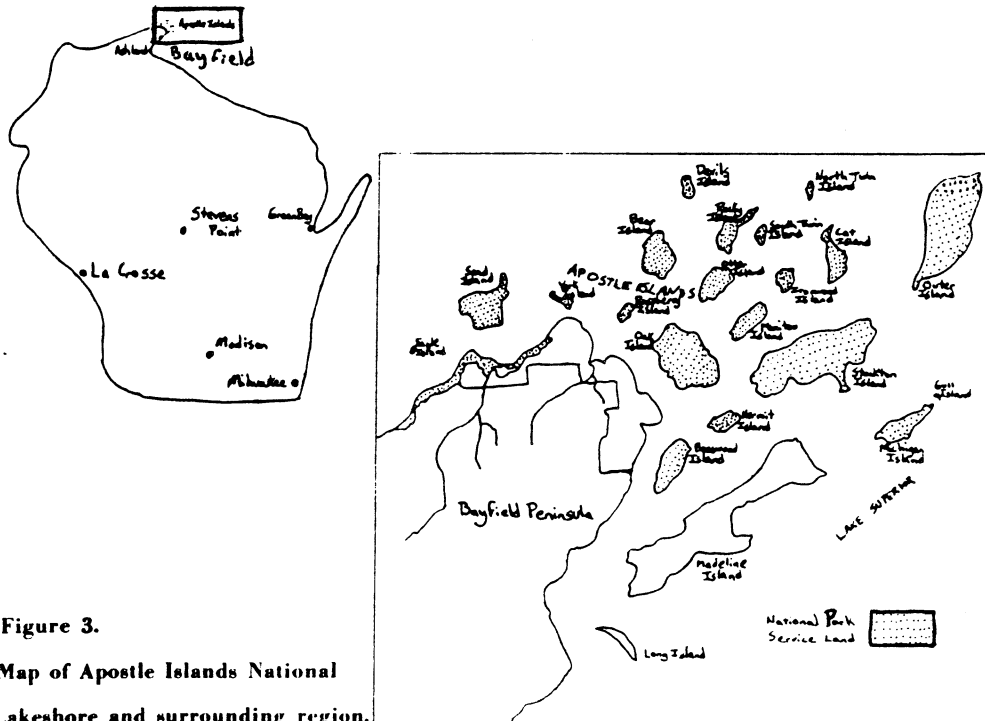


Figure 3.
Map of Apostle Islands National
Lakeshore and surrounding region.

The islands offer both natural and historical features. People have used the islands for many centuries, beginning with Indian peoples as early as 4000 B.C. Later, waves of European settlers swept across the islands, making commercial use of their natural resources. The Apostle Islands would never quite be the same, and evidence still remains from the presence of men. Fish camps, lighthouses, and quarries now stand abandoned while natural succession continues to reclaim the land.

Set aside on September 26, 1970 by Public Law 91-424, the archipelago offers a natural area unmatched by any in the continental United States. Due to the islands' geographic isolation, they have been virtually

unscathed by people in recent times. The islands offer a lush mixed forest with waveswept rocky shores and sandy beaches for the enjoyment of all. Here, visitors can escape from the hustle and bustle of city life and venture into adventures such as sailing, sportfishing, canoeing, or just restoring primitive ties with the land.

RESOURCE INVENTORY

Geological History of the Apostle Islands

Standing as reminders of some of the earliest and latest chapters of geological history of the earth are the Apostle Islands of Lake Superior in northwest Wisconsin.

First there was intense volcanic activity that was followed by an equally intense period of earthquakes (Hough, 1958). The North American continent was in turmoil, no life yet existed.

Following these periods, it became cold, bitterly cold. The cold temperatures brought the snows. Snow fell for centuries, forming into enormous ice sheets. Under their own weight, these ice sheets began to move south - scouring and scraping off everything in their path. This was the beginning of the great ice age that held a continent in its grip for millions of years. During the Wisconsin Ice Age beginning 50,000 - 75,000 years ago the landforms of northern Wisconsin were shaped (Hough, 1958).

About eleven thousand years ago global temperatures began to rise. The great Wisconsin glacier began to relinquish its tenacious hold on the land. Its melt waters filled lake basins and flowed in channels around higher ground forming Lake Superior and the Apostle Islands (Mengel, 1969.)

As the glaciers retreated they scraped off the rich topsoil leaving glacial debris behind. Located in a climatic transitional zone, both boreal forest of the north and mixed-hardwood forests of the south colonized the land (Daniel and Sullivan, 1981). Sandstones deposited during fluctuations of ancient seas were exposed along many of the coasts. Erosive action of water on sandstone created many of the picturesque benches, cliffs, and caves enjoyed today by recreationists and naturalists. Deposits of sand have accumulated into beaches and sandspits in areas of

weaker currents and wave action (Harrard, 1960).

Climate

Sun flecks sparkle off the crystal clear waters of Lake Superior. Gently rolling waves caress your boat and bring you to an altered state of mind. The warm energy of the sun rushes through your body. Suddenly, almost unperceptibly the sun disappears behind an obscure, ominous cloud! The gentle waves of moments ago are now curls of anger. Under your feet you sense some unknown creature waking from the bowels of the lake seeking its prey. You are jolted out of your meditative state to the dismal realization that you are the hunted. You and your seacraft are at the mercy of yet another Lake Superior squall.

Lake Superior is the largest inland freshwater lake in the world (Ellis, 1974). Due to its size, the lake is a climate maker and receiver. The lake has a long history of violent storms and associated shipwrecks (Wolff, 1971, 1972). No long time resident is without the sad memory of a loved one or friend lost to the waters and temperament of the lake. Storms from the northeast and southwest are the most severe and have had devastating effects on commercial endeavors (i.e. shipping and fishing) and the lives of the people on "her" shores (NPS, 1982).

Lake Superior waters remain cool (50 F) throughout the summer. Due to heat build up large storms are common during mid-summer. Occasionally a storm will be funneled to the Great Lakes area from the southwest. These storms can be extremely harsh. However, the lake acts as a buffering agent and is able to weaken the storms severity (Ellis, 1974).

During the winter months, the temperature in the immediate vicinity around the lake is moderate. Snow-fall varies from 20 - 120" per year. Navigation today is possible as late as January and as early as April (NPS, 1982). At the Apostle Islands, freeze-up occurs earlier and melting later because of the slow flow of the water amongst the islands (NPS, 1982).

Wildlife

The Apostle Islands acts as a land funnel for large numbers of passerine birds, waterfowl, and raptors during their spring and fall migration along the Missi-

ssippi Flyway. Most birds use the islands as staging and feeding areas. However, many birds from the northern boreal forest and southern mixed-hardwoods forest use the islands as their breeding grounds. This rich mixture of birds is seldom experienced in other parts of Northern United States or Southern Canada (Harris, 1977).

Gull island (3 acres), the smallest of the Apostle Islands, is home and breeding ground for over 90% of the herring gulls of the Wisconsin portion of Lake Superior (Harris, 1977). In addition, heron rookeries and double-crested cormorant colonies are dispersed on several of the islands (Brander, 1981). Free from human impact, these remote breeding grounds provide healthy and thriving populations of seabirds.

The Apostle Islands were once home to the bald eagle and common loon (pers. comm. Mack, 1985). Though often seen during the summer months, no successful nesters have been observed since the early 60's. Persistent pesticides have been primarily responsible for these declines (pers. comm. Kosie, 1985). It is hoped that the bald eagle will soon return to traditional nesting areas that they once used.

Even though the islands have been separate from the mainland for 10,000 years, mammals have had little trouble reaching their shores. Large animals such as the black bear and white-tailed deer walk over during freeze-up, while smaller mammals such as mice and voles most likely floated over on debris (NPS, 1985).

White-tailed deer and their extensive deer yards can be found on several of the islands and the mainland. Beavers, once abundant in the area during the fur trade days, are now found only on Stockton and Outer Island. Snowshoe hares have been observed on all the islands, except Gull, and on the mainland. Red Fox and coyote are common predators and have been sighted on all the islands and the mainland. In the mid-50's, the state DNR introduced pine martens to Stockton Island, but no subsequent studies have been carried out to determine population density. Remaining unexplainable are the absence of raccoons and skunks to the islands - the great opportunists of the mammal world (NPS, 1985).

Vegetative Composition

Supporting both plants from the northern boreal forest and the southern mixed-hardwood forest in fluc-

tuating proportions give each island a distinct uniqueness from each other (Beals and Cottam, 1960). Woodland plants such as the yew, trillium and Canada dogwood are found throughout the archipelago (Daniel and Sullivan, 1981). Specialized plant communities have developed in association with sandspits, beaches, lagoons, bogs, and rock cliffs.

No less than twenty species of orchids are indigenous and endemic to the islands (NPS, 1982). It is not uncommon to find floating sphagnum bogs with pitcher plants, rare sundews, bog laurel, and swamp pink only steps away from beaches or sandspits, home to bearberry, beach heath, sand cherry, and earthstar fungus.

Prehistoric and Historic Indian Use

When examining the area's resources, it at first appears that the area is most important for its scenic beauty and isolated shorelines. In part this is true. Most visitors come to experience this beauty and seek solitude away from their crowded cities. However, most visitors are unaware of the cultural history of the area. Closer examination reveals fascinating stories of how people of the past interacted with the resources of the Lakeshore. Visitors will gain a deeper understanding of how these prehistoric and historic people used the Lakeshore for their livelihood and how people of today (including visitors) continue to interact with the Lakeshore.

Little is known about the early use of the islands by ancient people. Several archeological sites dating back to 4000 B.C. have been identified (NPS, 1985). It is assumed that these Paleo-Indians were closely tied to the area's prime resource - fish.

The islands appear to have not been used as permanent settlements. Instead Indians migrated to the islands during the warmer months in order to take advantage of a reliable food source. By freeze-up, summer camps had been dismantled and the people moved further inland (pers. comm. Monk - Park Historian, 1985).

Alexander (1985) provides an account of the first peoples to the islands. They called themselves Anishinaubeg, Chippewa to the white men. As tradition tells, they left their ancestral homes and crossed over the Bering Straits long before the last ice sheets left the North American continent. For centuries they moved slowly across the continent until they reached the ocean whose water was salt. Being able to go no fur-

ther, the Anishinaubeg settled on the east coast. As legend has it they remained on the eastern shores so long that they forgot their origin.

Then, one day a small sea shell (megis) emerged from the great ocean and floated above the Anishinaubeg tribe. Unaware of the meaning of the megis, the tribe turned towards its medicine men and women for guidance. Finally an elder of the tribe received a dream that told of the megis as a guiding symbol back to their ancestral home in the west.

Immediately the Anishinaubeg packed all their belongings and travelled to the west. Often discouraged by the long endless road, the tribe stopped and refused to follow the megis. Some stops lasted for several generations until the people were once again urged on by a strong spiritual leader. Finally two settlements were reached, both on the shores of Lake Superior. The first was named Boweting (Sault St. Marie) and the second Moningwaukauning (La Pointe, Wisconsin) (Quimby, 1960).

The year was 1490 for the second settlement. The Chippewas were chased from the Chequamegon Bay area by marauding bands of Fox and Sioux Indian tribes (Quimby, 1960). They sought refuge on Moningwaukauning, a sandy promontory, jutting out from Madeline Island, and serving as a principal port of landing. The La Pointe as the French named it proved to be a protective fortress (Ellis, 1974). The Chippewa Indian community swelled to over 10,000 people in a little more than a century (NPS, 1985). They enjoyed their shangri-la existence of trading, fishing, hunting, and farming until the winter of 1610. Due to the severity of the winter of 1610, food supplies were decimated. Many fled to the mainland, while others headed back to Boweting (NPS, 1985).

The Fur Trade

Centuries before the Chippewas fled La Pointe and before European contact, Indians had been trading and living along the trade route (Quimby, 1960). The trade route was opened about 10,000 years ago as the last glaciers retreated back to the north. The Great Lakes/St. Lawrence Seaway extended westward as far as the Rocky Mountains and eastward through Lake Superior, Huron, Erie, and Ontario until it finally reached the Atlantic Ocean via the St. Lawrence Seaway (Figure 4) (Ellis, 1974).

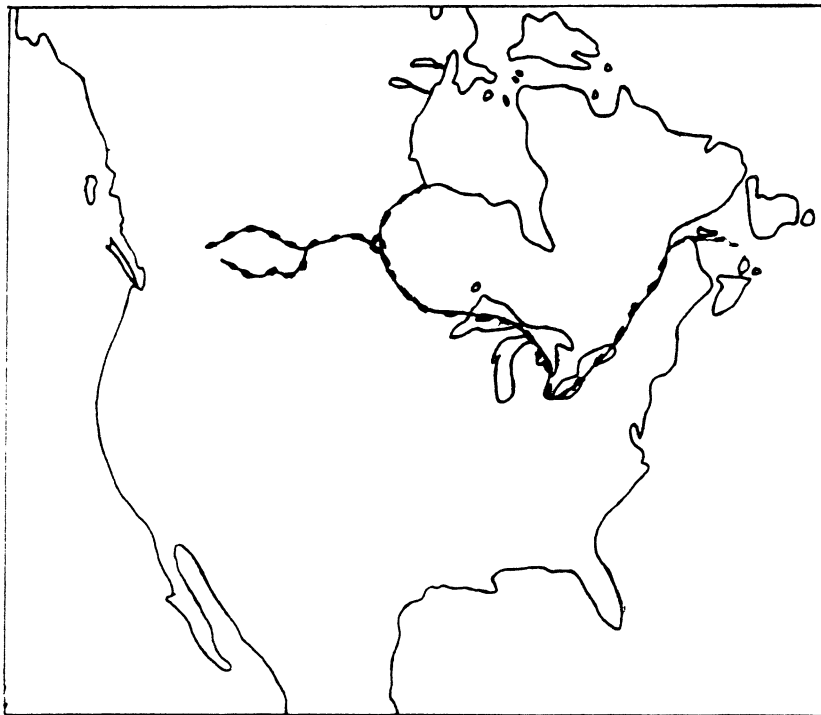


Figure 4. Fur trade route.

This great highway of water used by Native Americans, was the same waterway used by Europeans. These early explorers were French and were seeking an elusive waterway to China in order to expand their existing trade system. Instead they found a wealth of fur along the Great Lakes/St. Lawrence Trade Route. While the English were busy settling the wilds of the States, Frenchmen were already mapping this great trade route for New France (Ellis, 1974).

With news of the abundant supply of furs, fur trading parties were sent to the new world. These early "voyageurs" often came with small ill-equipped boats that were unable to hold large amounts of pelts. Befriending the Chippewas, voyageurs soon learned the skills needed to construct the sturdy birch bark canoes that had carried the Indians along the trade route for centuries. Unlike the Chippewa canoes, a voyageur canoe was 35-40 feet long, six feet across, and could hold a crew of fourteen and 600 lbs. of pelts (Ellis, 1974).

Two french voyageurs came to the Chequamegon Bay area in 1659 and opened the first trading post of the region. Area Indians soon became dependent on the fur trade. Lifestyles began to change. Food, clothing, canoes, and homes had traditionally been products of the natural environment. Now, life centered around the newly developed trading post for supplies. Chippewa men were busily trapping beavers in order to trade for goods from a continent they knew nothing about (Harris, 1976).

Often travelling side by side with the voyageur were the men in black robes. The missionary came to the New World in an attempt to convert the Native Americans to follow the one "true" path - Christianity. Living and preaching in the area for years, these missionaries were instrumental in opening the area to further settlement. Often persecuted and tortured, or worse yet, killed, these resilient men persisted in mapping out the entire Great Lakes region (Ellis, 1974). Their presence is still felt today through their custom of naming unique geological features after religious figures (Harris, 1976). Hence, the name Apostle Islands.

The fur trade had been dominated for almost two centuries by New France. This is not to say that conflicts did not occur. The English soon realized that whoever could control the trade route would also rule North America. These conflicts culminated during the French-Indian Wars of the late 18th century and early 19th century. The English had come out on top and took control of the fur trade of the Great Lakes (Ellis, 1974).

After the war of 1812 the English fur trading rights were transferred over to the American Fur Company. At this time the population of the Bayfield area boomed with La Pointe reaching a population of 600 people. By the 30's, beaver populations began to de-

cline. Two hundred years of trapping had finally taken their toll on the resource and would soon take their toll on the areas' economy. By the 40's, the fur trade was dead and would never regain the importance it once played in the economy of the area (Harris, 1976).

Brownstone Quarrying

Fur was gone. People left the area seeking opportunities in the budding trading centers of Superior, Duluth, and Minneapolis/St. Paul. The Chippewa Indians, conquered by the white man, were herded like cattle on to reservations. Finally, the Civil War drained all the white men from the area (Harris, 1976).

Following the war, La Pointe and the Apostle Islands did not enjoy the benefits of economic recovery that other parts of the country were experiencing (Harris, 1976). However, in the late 1860's brownstone quarrying began on the mainland and one of the islands (Buckley, 1896).

Lake Superior sandstones laid down millions of years ago by ancient seas, were mined for their attractive "brownstone" (Thwaites, 1912). This "brownstone" enjoyed a brief thirty year reign as a preferred building material throughout the nation (Lidfors, 1983).

The first brownstone quarry operation began in 1868 on Basswood Island. These first stones were shipped by rail to Milwaukee and used to construct the cities first courthouse. During the next thirty years four other quarrying operations mined the "brownstone" from the islands (Eckert, 1985).

The "brownstone" was used as far away as Fifth Avenue in New York City and for libraries, schools, courthouses, and banks of the Midwest. The Old Bayfield courthouse, now the administrative headquarters and visitor center of the Apostle Islands, was constructed from these very same "brownstones" (Lidfors, 1983).

By the turn of the century, the quarries were abandoned. Structural steel and brick facing turned out to be more cost effective as a building material and the demand for "brownstone" rapidly declined (Eckert, 1985).

Today, only large open pits remain. Through the years, rainwater and groundwater has accumulated and natural succession is reclaiming the scarred land. The quarries stand as significant reminders of man's interaction with his environment and his desire to exploit it.

Logging

Much is written and documented about the lumber industry boom of the northwoods of the Great Lakes region (Frie, 1951; Nelligan, 1969; and Rosholt, 1980). The boom hit the Great Lakes area in the mid-19th century. Large tracts of pines were stripped off the land to supply Americas' growing cities. It became inevitable that the boom would reach the shores of the Apostle Islands in the late 1870's (Twining, 1983).

Most islands were cut for their large stands of white pine. Hemlock bark was stripped off and sold to tanneries to make leather (Twining, 1983). Only five islands (Devil, North Twin, Raspberry, Eagle, Gull) escaped from the swing of the lumberman's axe. The timber was taken to the mainland and processed in area mills around Bayfield and Ashland. Most of the timber never left the Bayfield Peninsula area, being used for docks, boats and homes (Lidfors, 1984).

The timber business in the Apostle Islands was never a lucrative business venture, and was short lived. Similar to other resources of the area, timber was completely wiped off the islands by the 1920's (Twining, 1983). With no timber, the area mills soon closed down and people once again turned to fishing as a means of life (Lidfors, 1984).

Fishing

Throughout the Lake Superior region, fish have played and continue to play a key role in the lives of the area people. Historically, Chippewa Indians were the first recorded group of people to take advantage of the lakes' fish (Quimby, 1960). There is archeological as well as ethnographic evidence that gill nets were used (Fritz, 1984). People, Indians and non-Indians alike, soon discovered that the areas' soil was too poor and the growing season too short to depend on crops as a staple. Fish became a chief source of food in the diet. Later people would turn away from fish simply as subsistence, and venture into commercial enterprises (Fritz, 1984).

As early as 1830, the now defunct American Fur Company was speculating the risk of the fishing industry. Beavers were virtually gone from the area. Though their efforts into commercial fishing were short-lived, they were able to set a precedence for future fishing endeavors.

The Hokenson Brothers Fishery at Little Sand Bay is one of the best documented in terms of a 20th century commercial fishing operation (Fritz, 1984). These Swedish immigrants began their operation in the 1920's. They were farmers by day and fisherman by night. Their operation grew so extensively that they had to give up farming and put all their energy into the fishing industry.

They were catching 600 - 800 lbs. of lake trout, herring, and whitefish daily and shipping their catch by rail to markets in the Chicago area. However, by the late 50's the catch had declined drastically due to the invasion of the sea lamprey and overfishing (Fritz, 1984).

The fishery closed its door in the mid-60's and the buildings and their fishing tug "The Twilite" can be seen today from their original operating center. It is doubtful that commercial fishing will ever gain the importance it once held at the Apostle Islands. PCB's and the introduction of the smelt continue to threaten the survival of native fish populations.

Lighthouses

Five lighthouses (Devil, Outer, Sand, Raspberry, and Michigan) were constructed between 1850-1900 in response to the growing shipping industry of the Great Lakes (APINL files).

Like all lighthouses, lighthouses at the Apostle Islands served as guiding beacons and reassuring symbols to the wary mariner. The experienced sailor soon learned to keep a safe distance from the islands. Many storms could grab naive seaman and throw their ships against the steep rocky cliffs of the islands.

Little research has been carried out on life of the lightkeepers of the Apostle Islands. One can assume that life must have been very lonely and isolated. Extensive research has begun at the Raspberry Island Light Station to unfold the fascinating history of the site. In addition, the light station will be renovated to represent life in the early 1920's in order to

provide the visitor with a deeper appreciation of life at a light station.

Tourism and Recreation

The islands have long been a tourist attraction. In 1894, summer residents first appeared on Madeline Island much to the surprise of native islanders (NPS, 1985). These first tourist must have been relatively wealthy. This same characteristic is true for most of the island visitors of today.

Summer cabins and cottages began to spring up on Madeline, Sand, Rocky, South Twin, and Hermit Islands (NPS, 1985). These first tourists were attracted to the area for sailing, camping, berrying, picnicking, solitude, sportsfishing, and hunting. Many visitors of today are attracted for the very same reasons.

Conclusion

Many "waves" of people have "lapped" the shores of the islands, but none has stayed long enough to call the Apostles home. The islands were often abandoned once a resource had been exhausted or a demand for that resource had diminished.

Isolation and hardships characterize the lack of permanent settlements on the islands, with the exception of La Pointe on Madeline Island. Finally, the Apostle Islands are evidence of man's close ties and interrelationships with land and water.

CHAPTER 3 - RATIONALE AND NEEDS

MISSION STATEMENT

National Lakeshore Mission: To conserve and develop for the benefit, inspiration, education and recreational use and the enjoyment of the public ... " 20 of the 22 Apostle Islands and a segment of the mainland of Northern Wisconsin, and"... their related geographic, scenic, and scientific values..." (Public Law 91-424, September 26, 1970).

INTERPRETIVE MISSION

The 1985 Annual Statement of Interpretation has outlined the function and role of interpretation at the Apostle Islands through an interpretive mission which states:

...providing visitors with information and describing the significance of the natural, cultural, historical, and recreational aspects of the area as they related and continue to relate to human use.

Created as a National Lakeshore fifteen years ago, the Apostle Islands are becoming a significant haven for recreational users from the Midwest (pers. comm. Mack, 1985). In hearings before the National Parks and Recreation Subcommittee on June 3, 1970, Senator Gaylord Nelson of Wisconsin talked of preserving the areas' natural and cultural resources as a National Recreational Area. He further described the potential lure of the archipelago to 50 million people from the states of Wisconsin, Minnesota, Michigan and Illinois. These metropolitan areas include Minneapolis/St. Paul, Chicago, Milwaukee and surrounding areas. With this in mind, interpretive services, facilities, and programming continue to be developed to service the present and future visitor needs.

GOALS

A hierarchy of goals and interpretive objectives were created by Jim Mack, Chief Naturalist at the Apostle Islands. A further division of the interpretive objectives is outlined in the objectives for the wayside exhibits. These guidelines will provide direction, continuity, and consistency in all interpretive efforts, while focusing on wayside exhibits.

Goals:

- A) To develop services that provide interpretative information and environmental education leading to an awareness, appreciation, protection and wise and sound use of the cultural resources of the archipelago.
- B) To develop services providing interpretive information and environmental education leading to an awareness, appreciation, protection and wise and sound use of the natural resources of the archipelago.

INTERPRETIVE OBJECTIVES

Goal A: Awareness, appreciation, and protection of cultural resources

1) Personal Services

... to provide interpretive programs (e.g. nature walks, demonstrations, slide shows) in areas of high visitor use in order to describe significant historical events that occurred at the archipelago.

... to provide interpretive information and orientation of cultural resources on the archipelago at the following locations:

- *Bayfield visitor center
- *Little Sand Bay contact station
- *Stockton Island contact station
- *South Twin Island contact station
- *Sand Island contact station
- *Oak Island contact station
- *Manitou Island fish camp
- *Light stations (Devil's, Raspberry, Sand, Michigan and Outer)

2) Non-personal Services

... to develop a 10-minute and 28-minute introductory film for visitors to learn of the cultural resources of the islands.

- a) the 10-minute film will be shown upon request and demand at the Bayfield visitor center.
- b) the 28-minute film will be sent on a loan basis to organizations and school groups who request information on the area's cultural resources.

... to produce a series of Island Guides for the recreational boaters that highlights significant cultural resources of the Apostle Islands.

... to create a wayside exhibit plan that informs, identifies, and interprets "key" cultural resources of the archipelago.

Goal B: Awareness, appreciation and protection of natural resources

1) Personal Services

... to provide interpretive programs (e.g. nature walks, demonstrations, slide shows) in areas of high visitor use in order to explain the natural phenomena of the Apostle Islands.

... to provide interpretive information and orientation of areas' natural resources at the following locations:

- *Bayfield visitor center
- *Little Sand Bay contact station
- *Stockton Island contact station
- *South Twin Island contact station
- *Sand Island contact station
- *Oak Island contact station
- *Manitou Island fish camp
- *Light station (Raspberry, Devil's, Sand, Outer, Michigan)

2) Non-personal Services

... to develop a 10-minute and 28-minute introductory film to inform visitors of the area's unique natural resources.

- a) the 10-minute film will be shown upon request and demand at the Bayfield visitor center.
- b) the 28-minute film will be sent on a loan basis to organizations and school groups who request natural history information concerning the Apostle Islands.

... to produce a series of guides for the recreational boaters that highlight significant natural resources of the Apostle Islands.

... to create a wayside exhibit plan that informs, identifies and interprets "key" natural resources of the lakeshore.

OBJECTIVES FOR DEVELOPMENT OF WAYSIDE EXHIBITS

A) Cultural Resources Objective

... to develop ten wayside exhibits that mesh with and add to existing interpretive efforts at the following cultural resource sites:

- 1) 3 - exhibits at the sandstone quarry on Basswood Island.
- 2) 2 - exhibits at the Hokenson brothers fishery at Little Sand Bay.
- 3) 1 - exhibit at the Schroeder railroad logging camp on Outer Island.
- 4) 1 - exhibit at the light station on Raspberry Island.
- 5) 1 - exhibit at the light station on Sand Island.
- 6) 1 - exhibit at the sandstone quarry on Stockton Island.
- 7) 1 - exhibit at the Trout Point lumber camp on Stockton Island.

B) Natural Resources Objective

... to develop three wayside exhibits that mesh with and add to existing interpretive efforts at the following natural resource sites:

- 1) 1 - exhibit describing the ancient beach lines found on Oak Island.
- 2) 1 - exhibit of beaver activity on Stockton Island.
- 3) 1 - exhibit describing the quaking bog found on Stockton Island.

Wayside exhibits have the potential to create a favorable impression of the management of the Apostle Island National Lakeshore. The exhibits will inform the visitor on the significance of each of the resources in shaping and forming the Apostle Islands of today.

CHAPTER 4 - WHO IS THE VISITOR?

THE VISITOR

Blahna and Roggenbuck (1979) state that planning visitor services without seeking knowledge of the visitor is no plan at all. In order for interpretive services to be effective they must be in tune with visitor expectations. Cherem (1983) and Sharpe (1976) further state that interpretation is the bridge between the resource and the visitor, and that the profession is dependent on both.

People visiting our National Parks, Forests, and Reserves bring with them a diverse background of experiences, knowledge, and interests. Interpretive information presented to one visitor group may not work for another. Communication efforts can be greatly enhanced by placing visitors into distinct user groups based on the following characteristics:

- Place of origin
- Age
- Expectations for visit (i.e. escape, solitude, nature study)
- Length of visit
- Special needs (i.e. disabled, organized groups)

The Lakeshore was established as a recreational area in 1970. Thorough visitor surveys have not yet been researched. To further complicate the collection of data, the Office of Management and Budget has passed a mandate that restricts all federal government agencies from canvassing the general public. Unobtrusive observation and informal questioning are the only available tools remaining for the resource manager to identify visitor trends. During the 84' and 85' summer season, visitor use patterns and characteristics were gathered by interpretive naturalists using unobtrusive methods (See Appendix D).

A visitor profile was developed through the data collected by interpretive naturalists and through interviews with the following Lakeshore personnel:

- Mr. Jim Mack, Chief Naturalist
- Mr. Bill Ferraro, Chief Ranger
- Ms. Diane Keller, Assist. Chief Naturalist
- Mr. Brent McGinn, Seasonal Dist. Ranger (6th - year)
- Ms. Susan Brainard Nelson, Seasonal Interpretive Naturalist (6th - year)

VISITOR USER GROUPS

Three significant visitor user groups have been identified:

A) Day Users

- 1) Visit islands via excursion boat tours
- 2) Visitors to Mainland and/or Madeline Island
- 3) Local visitors

B) Recreational Boaters

- 1) Rent-A-Boaters
- 2) Boat Owners
- 3) Powerboaters

C) Campers

- 1) Island Campers
- 2) Mainland and/or Madeline Island Campers

By far the recreational boaters represent the largest percentage of visitors to the Apostle Islands. Unfortunately, due to their independence, they are the most difficult group to inform of the Lakeshore resources. They are arriving from many different directions making it unfeasible for a central check point. Nevertheless, they remain the dominant user group and their needs and desires, as well as all user groups, must be addressed.

A) Day Users - 25-30% of visitors

Visitors that visit the area for no more than six hours and do not stay overnight.

1) Excursion Boat Day Users - 75% Day Users

- families and senior citizens
- blue-collar workers
- can only invest a short amount of time in visit
- enjoy naturalist-led nature walks
- desire to see the waters of Lake Superior from a boat

2) Mainland and/or Madeline Island Users - 20% Day Users

- families and senior citizens
- uninterested in excursion boat tours
- unaware of opportunities on islands
- passing on through on their way to primary vacation spot

3) Local Resident Users - 5% Day Users

- fisherman, sailors and Chippewa Indians
- knowledgeable of lakeshore
- present prior to designation as a lakeshore
- independent of National Lakeshore presence
- involved in hunting, fishing and sailing on lakeshore

B) Recreational Boaters - 60-65% of visitors

Visitors that have several days to sail and stay overnight in their self-contained boats.

1) Rent-A-Boaters - 80% of Boaters

- white-collar workers (i.e. executives, lawyers, doctors)
- young (mid-20's to mid 40's), successful, advancing professionals
- unknowledgeable of Lakeshore and sailing skills
- sail during daylight hours, moor near National Lakeshore docks during evening hours
- attend evening programs
- infrequently hike island trails
- frequently from Minneapolis/St. Paul

2) Boat Owners - 15% of Boaters

- knowledgeable of Lakeshore
- visited prior to designation as National Lakeshore
- resentful and independent of National Lakeshore presence
- intelligent, possessing expertise in sailing skills
- often from Minneapolis/St. Paul
- avoid hiking island trails and attending naturalist programs

3) Powerboaters - 5% of Boaters

- visit park only during the day
- oftentimes are not self-contained
- do not enjoy camping
- often local residents

C) Campers - 10-15% of visitors

Visitors that have several days to visit and have interests other than sailing.

1) Island Campers - 65% of Campers

- highly educated
- possess a M.S. and/or Ph.D and often teach
- between the ages of late 20's - early 50's
- are seeking solitude
- expect professionalism from National Park Service
- seek out non-personal services (i.e. wayside exhibits, publications, etc.) more than personal services
- enjoy primitive camping with no services

2) Mainland and/or Madeline Islands Campers - 35% of Campers

- dependent on services for camping (i.e. grocery stores, running water)
- primarily interested in socializing with other campers
- will visit the islands during the day
- enjoy naturalist programs

The visitor profile outlined above is a start at understanding the areas visitors and our knowledge of them and will surely change as time progresses.

CHAPTER 5 - INTERPRETIVE PROGRAMMING AT APOSTLE ISLANDS

EXISTING PROGRAMMING AT THE LAKESHORE

Interpretive planning begins by addressing the existing programming and integrating the new (i.e. wayside exhibits). The following is a compilation of existing interpretive facilities, services, and programs at the Lakeshore.

A) INTERPRETIVE FACILITIES

*Bayfield Visitor Center

This is the main visitor center for the Apostle Islands National Lakeshore. The center is housed in the historic Old Bayfield Courthouse. Services provided consist of information/orientation desk; exhibit room with relevant resource information featuring the lighthouse lens from Michigan Island; a fifty-five seat auditorium where a 10-minute film is shown; a sales outlet for Eastern Parks and Monuments Association (EPMA) where interpretive literature is sold.

*Little Sand Bay Contact Station

A self-serve contact spot for visitors who drive or boat to Little Sand Bay. Services include: information/orientation maps and brochures; natural and cultural exhibits; an adjacent abandoned fishery with a self-guided pamphlet named The Hokenson Brothers Fishery.

*Stockton Island Contact Station

Services are offered from June 9th - Sept 30th and include an EPMA sales outlet, information/orientation maps and brochures, natural and cultural exhibits, nature walks and evening programs.

*South Twin Island Contact Station

Services are offered from June 1st - Sept 30th and include an EPMA sales outlet, information/orientation maps and brochures, geological exhibits, nature walks, and evening programs.

***Raspberry Island Light Station**

Services offered from June 1st - Oct 15th and include information/orientation and a regularly scheduled naturalist led lighthouse tour.

***Manitou Island Fish Camp**

Services offered from June 1st - Sept 1st and include information/orientation and a regularly scheduled naturalist led tour of the fish camp.

B) INTERPRETIVE PROGRAMMING

***Courthouse Walk**

This guided walk is led once a week and departs from the Old Bayfield Courthouse. Naturalists discuss topics ranging from "brownstoning" to bird life on the islands.

***Hokenson Fishery Walk**

The Hokenson Fishery is located in the Little Sand Bay area. The tour is offered upon request at any time during the day. Naturalists discuss the lives of the Hokenson Brothers and their commercial fishing endeavors up until the time of abandonment due to the sea lamprey invasion and overfishing.

***Raspberry Island Lighthouse Adventure**

A tour of the Raspberry Island Light Station is offered daily. Naturalists discuss the importance of light stations as invaluable navigational aids. In addition, the naturalist discusses the isolation and social aspects of life as an Apostle Island lightkeeper.

***Julian Bay Beach Walk**

Offered three times per week. Visitors are introduced to several habitats and their significance in island ecology. Mixed trees of southern deciduous and northern boreal forests, unique and pristine bogs, and island beaches are discussed on this one hour tour.

***Manitou Fish Camp**

Daily tours are given that provide a historic perspective of a late 19th, early 20th century fish camp. Authentic fish camp tools and artifacts are utilized to illustrate the fish camp story.

***Various Topic Nature Walks**

Nature walks are given from early June to early September on Stockton and South Twin Islands. Topics and naturalists vary from year-to-year.

***Campfire/Evening Slide Programs**

Programs offered three times a week at several locations throughout the mainland and archipelago. Naturalists are given the freedom to create and develop programs that depict the Lakeshore resources.

***Lecture Series**

Offered every Wednesday throughout the summer at 8:00 PM at the Old Bayfield Courthouse. The lecture series often features local residents discussing the areas natural and cultural resources.

***Community Involvement**

Weekly press releases appear in local papers to announce schedules of interpretive programs and upcoming events. Posters are used only for special serial programs and events. Organized groups are allowed to use the Lakeshore Headquarters for special meetings barring no conflicts with Lakeshore operations.

C) NON-PERSONAL SERVICES

***Publications**

Three new brochures were developed in 1984 and include a bird checklist, and two self-guided trail brochures for the Hokenson Fishery and Julian Bay. In addition, a new welcoming letter was written. The letter will aid first time visitors in orientation to the islands and highlight recreational opportunities available. Island guides are being developed for the recreational boaters and will be available for the 1986 boating season. Other publications include area maps, description of the concession operation, and lastly a general brochure

that provides an overview of the Islands.

*Exhibits

New exhibits were installed at Raspberry Island Light Station and the Contact Station on South Twin Island in 1984. Existing exhibits at Stockton Island were upgraded. Harper's Ferry is designing and constructing a series of interpretive exhibits for the Old Bayfield Courthouse. These exhibits will feature the most outstanding natural and cultural resources of the islands.

*Wayside Exhibits

The first of three wayside exhibits has been installed at the Hokenson Brothers Fishery. Thirteen, including the two at the Fishery will be planned and developed in 1985-86.

*Self-Guided Trails

Two self-guided trails with informative brochures are developed at Little Sand Bay (Hokenson Brothers Fishery) and on Stockton Island (Julian Bay Beach).

*Films

Two films were shot during the 1985 summer season at the Apostle Islands. The first is a 10-minute film that will orient and introduce the Lakeshore to the visitor. This film will replace an 8-minute slide show now being shown at Lakeshore Headquarters. The second film is 28-minutes and will discuss in depth the Lakeshores' significant cultural and natural resources. The film will be available on a loan basis to organizations and school groups upon request.

DELIVERY MATRIX

A delivery matrix was developed in order to make it clear how the interpretive media was chosen for a specified receiver/user group. A delivery matrix is a working compilation of themes, subthemes, messages, experience objectives, receiver/user groups, and medium selection that can easily be studied together.

Goal and Message Analysis

Two primary goals were developed for the delivery matrix by Mr. Jim Mack, Chief Naturalist at the Apostle Islands. They are as follows:

- 1) Cultural history of the Islands
- 2) Natural history of the Islands

The above mentioned goals are further divided into themes and detailed messages to be communicated.

Experience Objectives

Specific agency objectives are given that further define the interpretive objectives given in Chapter 3, pgs. 20-22. These objectives provide a "guiding light" in choosing the most appropriate and effective medium that relates meaningful and valid information.

Receiver Groups and Medium Selection

Medium is chosen that best communicates themes, subthemes, and messages to targeted receiver groups. Choosing one medium to communicate a detailed message to all receiver groups may fall short of meeting the interpretive objectives. To insure the Lakeshores' communication efforts and objectives, several interpretive medium are chosen per message. An example from the delivery matrix is given below:

<u>Message</u>	<u>Receiver Group</u>	<u>Medium Selected</u>
Island wildlife and their habits	Day Users - Excursionist	= Nature walk on Stockton Island
	Recreational Boaters - Rent-A-Boaters	= Evening/Campfire program on Stockton Island
	Campers - Island Campers	= <u>Wayside Exhibit - Beaver Flowage on Stockton Island</u>

The above example delineates one medium per receiver group. Each receiver group is not restricted in coming into contact with other interpretive media. Instead the medium chosen is the one the receiver group will most likely encounter. Thereby, the medium chosen is the dominant type chosen for communicating the information.

In the above example and throughout the delivery matrix, wayside exhibits will be underlined to portray their placement and role in overall interpretive programming at the Apostle Islands.

<u>Goal</u>	<u>Theme</u>	<u>Message</u>	<u>Experience Objectives</u>	<u>Receiver Groups</u>	<u>2* Medium Selected</u>
I) Cultural History of the Islands	A) Prehistory	1) Paleo-Indian lifestyles	To introduce the first people who used the area for their livelihood.	All Receiver Groups	= 28-minute film; general park brochure
	^{1*} B) Historic Indian Use				
	C) Fur Trade	1) The replacement and relocation of Native Americans	To provide an understanding of the importance of the fur trade to both the Europeans and Native Americans as they relate to the Apostle Islands area. In addition, to provide an understanding of the voyageur and his role in the fur trade.	All User Groups	= 28-minute film
	D) Brownstone Quarrying	1) Historical role of "brownstone" to the area's economy	To show primitive quarrying operations and how these operations altered the natural environment while benefitting the local economy.	Campers - Island	= Wayside exhibits: 1 - Stockton Island Quarry 3 - Basswood Island Quarry
	E) Logging	1) When and why trees on the Islands were logged	To provide visitors with a proper perspective of the Islands role in the Great Lakes lumber boom of the 19th and early 20th century.	Campers - Island	= Wayside exhibits: 1 - Trout Point lumber camp on Stockton Island 1 - Schroeder R.R. lumber camp on Outer Island
	F) Fishing	1) Historical importance of fishing to the area's economy	To provide an understanding of how fish have played a key role in the lives of all people who have lived on the shore of Lake Superior.	Day Users - Mainland Recreational Boaters - Rent-A-Boaters Campers - Mainland	= SGT of Hokenson Fishery = Manitou Island fish camp tour = Wayside exhibit: Hokenson brothers fishery (1 of 2) SGT of Hokenson Fishery
		2) Dangers that threaten native fish populations	To make visitors aware of how people have threatened native fish populations, first by the invasion of the sea lamprey, and later by the introduction of toxic chemicals (i.e. PCB).	Day Users - Mainland Recreational Boaters - Rent-A-Boaters Campers - Mainland	= SGT of Hokenson Fishery = Manitou Island fish camp tour = Wayside exhibit: Hokenson brothers fishery (2 of 2) SGT of Hokenson Fishery

^{1*}The primary responsibility of interpretation of Native American History of the area will be covered by the Buffalo Arts Center on the Red Cliff Indian Reservation.

^{2*}Dominant medium chosen to communicate specific interpretive messages

<u>Goal</u>	<u>Theme</u>	<u>Message</u>	<u>Experience Objectives</u>	<u>Receiver Groups</u>	<u>*Medium Selected</u>
II) Natural History of the Islands (continued)	D) Vegetative Composition	1) The transition of a mixed-hardwood forest and a boreal forest	To show that the Apostle Islands are geographically situated in a transition zone with the Canadian boreal forest to the north and mixed-hardwoods to the south.	Day Users - All subgroups Campers - All subgroups	= = = = Nature walks; 28-minute film 10-minute film I.D. guides for trees, shrubs, wildflowers; bulletin boards; nature walks
		2) Specialized plant communities	To show that several specialized plant communities have developed in association with sandspits, beaches, marshes, bogs, and rock cliffs. Visitors will discover rare endemic species unique to the Islands.	Day Users - Excursionists Recreational Boaters - Rent-A-Boaters Campers - Island	= = = = = = Self-guided Julian Bay Beach trail booklet <u>Wayside exhibit: Bog overlook on Stockton Island</u> <u>Wayside exhibit: Bog overlook on Stockton Island</u>

Summary

Recreational boaters represent the majority of visitors to the Apostle Islands and only a small percentage will be lured off their boats to hike island trails. Wayside exhibits are located along these trails and they will play a lesser role than other methods of interpretation in fulfilling the interpretive mission.

Interpretive messages have been targeted to those visitors having the greatest opportunity to read/view the wayside exhibits. These visitors represent the island campers and a portion of the mainland camper populations.

It is important to understand that wayside exhibits are only one facet of the overall interpretive planning at the Apostle Islands. It can not be expected that one medium choice will serve all visitor needs. Each medium choice is like a piece to a puzzle and once all pieces are in place, a composite image is revealed.

* Dominant medium chosen to communicate specific interpretive messages

CHAPTER 6 - EVALUATION SCHEME

Programming often ends after implementation. Evaluation of interpretive programming and activities depicts visitor needs and desires. Effective evaluation refers back to the interpretive objectives, which were revealed in Chapter 3. Evaluation can determine whether communication as defined in the objectives was achieved.

Many evaluation techniques (See Appendix E, taken from Cherem), can be used simultaneously during the evaluation process in obtaining accurate visitor data. Due to restrictions mandated by the Office of Management and Budget, these techniques must be studied carefully in order to determine which methods are available for use at the Lakeshore. Evaluation through selected techniques should encompass the following three areas:

- 1) Evaluation of message/interpreter
- 2) Evaluation of audience behavior
- 3) Evaluation of visitor enjoyment, knowledge and/or attitude change

Finally, evaluation results will define those interpretive components that are effective and those that need improvement or change. With evaluation, the plan returns full circle to the interpretive goals and objectives. If change is needed the plan needs to be reviewed and revised, starting with goals and moving through to visitor expectations. Without the visitor the profession of interpretation becomes invalid.

REFERENCES

- Alexander, E.A. 1985. Interpretive master plan for the Point Iroquois light station. M.S. thesis, Coll. Nat. Resour., Univ. of Wisconsin - Stevens Point.
- Anon. Overview of light station history at Apostle Islands National Lakeshore. On file at the Apostle Islands National Lakeshore, Bayfield.
- Badaracco, R.J. and J. Scull 1978. Megascale interpretive planning or how to keep an eye on the forest while looking at the trees. Interpreter 10(3):4-10.
- Baird; R.W. 1979. Interpretation: from plan to action. J. of Interp. 4(1):3-9.
- Beals, E.W. and G. Cottam 1960. The forest vegetation of the Apostle Islands. Wis. Eco. 2(4):743-751.
- Blahna, D.J. 1978. The Jordan Park Nature Center visitor survey and implications for interpretive program planning. M.S. thesis, Coll. Nat. Resour., Univ. of Wisconsin - Stevens Point.
- Blahna, D.J. and J.W. Roggenbuck 1979. Planning interpretation which is in tune with visitor expectations. J. of Interp. (4)2:16-19.
- Bousquet, W.S. A basis for interpretive planning: the demographic and behavioral characteristics of visitors to the Eleven Point National Scenic River, Missouri. M.S. thesis, Ohio State Univ., Columbus.
- Bradley, G. 1976. The interpretive plan. In: "Interpreting the environment." G.W. Sharpe (ed.), Wiley and Sons, NY.
- Brander, R.B., R.K. Maxwell and C.A. Wickman 1978. An inventory of select natural and cultural resources on eight islands of the Apostle Islands National Lakeshore. Special report no. 24 of the Sigurd Olson Institute, Northland Coll., Ashland.
- Brander, R.B. 1981. Environmental assessment: natural resource inventory and management. On file at the Apostle Islands National Lakeshore, Bayfield.
- Buckley, E.R. 1896. On the building and ornamental stones of Wisconsin. Wis. Geo. Sur., Bull. 10, Madison.

- Capelle, A.D. 1984. Interpretive planning: new trends. Interpreter 15(3):6-11.
- Cherem, G. 1983. Bay Beach Wildlife Sanctuary communications plan. Interpretation Center, Chelsea.
- Dalton, T. 1982. The glacial shorelines of the Apostle Islands. On file at the Apostle Islands National Lakeshore Bayfield.
- Daniel, G. and J. Sullivan 1981. A Sierra Club's naturalist guide - the northwoods of Michigan, Wisconsin, Minnesota. Sierra Club Books, San Francisco.
- Driver, B.L. and S.R. Tocher 1970. Toward a behavioral interpretation of recreational engagements with implications for planning. In: "Elements of outdoor recreation planning," B.L. Driver (ed.) Univ. of Michigan, Ann Arbor.
- Eckert, K.B. 1985. The sandstone quarries of the Apostle Islands. On file at the Apostle Islands National Lakeshore, Bayfield.
- Ellis, W.D. 1974. Land of the inland seas - the historic and beautiful Great Lakes country. Am. West. Publ. Co., Palo Alto.
- Evans, C. 1983. Theme development: goals and objectives in interpretive planning or "popcorn and string." Interpreter 14(1):12-15.
- Field, D. and J.A. Wager 1976. People and interpretation. In: "Interpreting the environment." G.W. Sharpe (ed.), Wiley and Sons, NY.
- Frie, R.F. 1951. Empire in pine; the story of lumbering in Wisconsin - 1830-1900. State. Hist. Soc., Madison.
- Fritz, D.L. 1984. Historic furnishing study - package no. 150 Apostle Islands Hokenson Fishing Dock. On file at the Apostle Islands National Lakeshore, Bayfield.
- Fritz, D.L. 1984. Special history study - family managed commercial fishing in the Apostle Islands during the 20th century with background information on commercial fishing on Lake Superior. On file at the Apostle Islands National Lakeshore, Bayfield.
- Harrard, W.J. 1960. Former shorelines of western and northern Lake Superior. Univ. of Wisconsin, Madison.

Harris, J.T. 1977. The Apostle Islands concentration area for migratory birds in the spring. Final report to the National Park Service, Univ. of Wisconsin, Madison.

Harris, W.J. 1976. The Chequamegon country, 1659-1976. Walter J. Harris, Fayetteville.

Hough, J.L. 1958. Geology of the Great Lakes. Univ. of Illinois, Champagne-Urbana.

Lidfors, K. 1984. Historic logging sites at the Apostle Islands National Lakeshore. On file at the Apostle Islands National Lakeshore, Bayfield.

_____, 1983. Sandstone quarries of the Apostle Islands - a resource management plan. On file at the Apostle Islands National Lakeshore, Bayfield.

Lorimer Associates Inc./Beck and Associates 1977. Impact analysis of alternatives for economic management of the area perimeter to the Apostle Islands National Lakeshore, Wisconsin. NW. Reg. Plan. Com.

McConnell, J. 1978. Interpretive planning in the forest. Interpreter 10(3):11-14.

Mengel, J.T. Jr. 1969. Geology of the western Lake Superior region. Wis. State Geo. Dept., Superior.

National Park Service 1985. Annual statement for interpretation and visitor services at Apostle Islands National Lakeshore. On file at the Apostle Islands National Lakeshore, Bayfield.

_____, 1985. Statement of management - Apostle Islands National Lakeshore. On file at the Apostle Islands National Lakeshore, Bayfield.

_____. 1982. Statement of management - Apostle Islands National Lakeshore. On file at the Apostle Islands National Lakeshore, Bayfield.

Nelligan, J.E. 1969. A white pine empire: the life of a lumberman. North Star Press, St. Cloud.

Northwest Regional Planning Commission 1979. Apostle Islands area highway 13 corridor report. Wis. Coast. Mgt. Pro.

Peart, B. and J. Woods 1976. A communication model as a framework for interpretive planning. Interpreter 9(3):10-13.

- Putney, A.D. and J.A. Wager 1973. Objectives and evaluation in interpretive planning. J. of Environ. Ed. 5(1):43-44.
- Rector, W.G. 1953. Log transportation in the lake states lumber industry 1840-1918. A.H. Clark Co., NY.
- Rosholt, M. 1980. The Wisconsin logging book - 1839-1939. Palmer publications, Rosholt.
- Sharpe, G.W. 1976. Interpreting the environment. Wiley and Sons, NY.
- Taylor, G.E. 1971. The interpretive planning process within a master planning framework. Parks Canada, Ottawa.
- Thwaites, F. 1912. Sandstones of the Wisconsin coast of Lake Superior. Wis. Geo. and Nat. Hist. Sur., Bull. no. 25.
- Tilden, F. 1967. Interpreting our heritage. Univ. North Carolina, Chapel Hill.
- Traweek, D.E. and J.A. Veverka, 1979. A systems approach to interpretive planning. J. of Interp. 4(1):24-29.
- U.S. House and Senate, 64th Congress, 1st Session, H.R. 15522, 1916. An act to establish a National Park Service and for other purposes. Govt. Print. Off., Washington, D.C.
- U.S. House and Senate, Public Law 91-824, 84 stat.880, S.621, 1970. An act to provide for the establishment of the Apostle Islands National Lakeshore in the state of Wisconsin and for other purposes. Govt. Print. Off., Washington, D.C.
- Veverka, J.A. 1978. Pacing interpretive services: a concept for interpretive planners. J. of Interp. 3(1):20-26.
- Wager, J.A. 1976. Evaluating the effectiveness of interpretation. J. of Interp. 1(1):5-12.
- Wolff, J.F. Jr. The shipwrecks of Lake Superior. Part I: Inland Seas (Summer, 1971):130-142; Part II: (Fall, 1971):174-187; Part III (Summer, 1972):51-63.
- Young, R.C. 1970. Establishing goals and definitions of objectives. In: "Elements of outdoor recreational planning," B.L. Driver (ed.), Univ. of Michigan, Ann Arbor.

PART II: THE WAYSIDE EXHIBITS
FOR APOSTLE ISLANDS NATIONAL LAKESHORE

INTRODUCTION

As previously demonstrated in Part I, wayside exhibits will be a significant component of the interpretive program at the Apostle Islands. During times of budgetary stress and increased time demands on a limited staff, wayside exhibits can become strategic tools of communication.

Wayside exhibits are initially costly, but once in place they require minimal maintenance (Sharpe, 1976). Though they communicate a limited amount of information, they are on duty twenty-four hours a day making contact with visitors. They can inform, stimulate, and provoke further action or desired behavior if the following production methods are considered (Sharpe, 1976).

SUPPORT STRUCTURES AND MATERIALS CONSIDERATION

Support Structures

People throughout time have had a strong interplay with water and island resources at the Apostle Islands. A majority of present day visitors to the Apostle Islands will stand on a pier before the end of their visit. Once arriving on an island, they most often dock their sailing vessel to a pier in order to venture on to an island. Due to these facts, a marine theme was chosen for all support structures (per. comm., Jim Mack, 1985). Support structures were designed to be a facsimile of a fishing pier or dock (See Figure 5). When in place the structures will establish identity, credibility (of agency), and provide continuity and uniformity throughout.

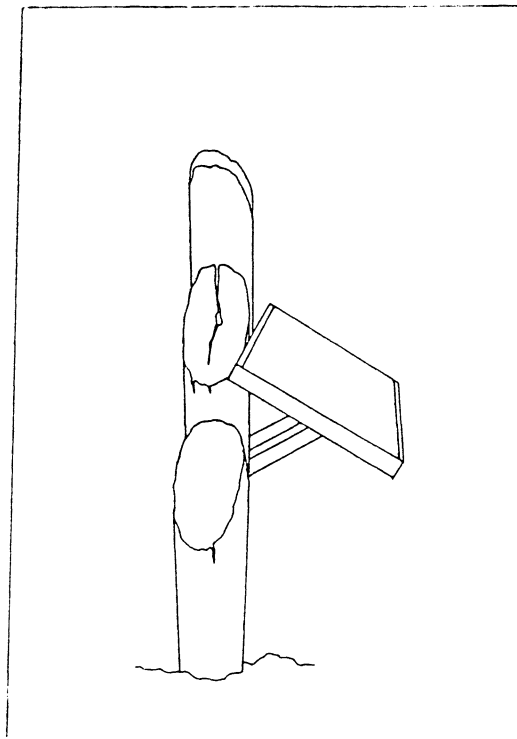


Figure 5.

Apostle Islands wayside exhibit support structure.

Materials

Materials, ranging from simple wooden exhibits to sophisticated plastics can be used to construct exhibits (Murphy, 1983). For the Apostle Islands, the wayside exhibits may be fabricated by Harpers Ferry through a fiberglass embeddement process (per. comm. Jim Mack, 1985). A heated "sandwich" process embeds text and graphics to a sheet of fiberglass that is weather and vandal resistant. Unlike other materials (i.e. metals and woods), fiberglass embeddement maintains color crispness and allows for detailed graphics.

One drawback of choosing fiberglass embeddement is its high cost. Each wayside exhibit can cost \$2000 to produce and a second copy will cost an additional \$40 (per. comm. Diane Keller, 1985). Nonetheless, the exhibits will pay for themselves over time because of their low maintenance and longevity.

THE WRITTEN WORD

The Audience

Before writing the text, the audience who reads and views the exhibit must be defined (Tilden, 1967). Island campers at the Apostle Islands represent the majority of visitors with time and interest to read wayside exhibits (See visitor use section, Part I). Many of these visitors will have no further contact with the Lakeshore than the contact of wayside exhibits. In light of this fact, the written word becomes of paramount importance and must be read, enjoyed, and understood by the visitor.

The Thought

Quality and effective writing is accomplished by two processes - thinking and composition. The former comprises 90% of the effort. Tilden (1967) states - "With sound thinking, even if the composition is wanting, the results will not be entirely bad. On the other hand, if the thinking is poor, even if the writing is brilliant, the result is worthless or even mischevious."

Prior to laying the pen to paper, the following questions for each exhibit were asked:

- What is the keynote of this site?
- Will enough visitors see the exhibit to make it worthwhile?
- What does the prospective reader wish to read?
- How do I limit the number of words and still present a meaningful and valid message?
- And how do I say it in such a way to make it involving and readily comprehensible?

Asking these questions helps to lay the foundation for creating exhibits that visitors will remember long after their visit.

Tools of Composition

As Mark Twain once said - "I would have written a shorter letter, but I didn't have the time." It is easier to write many words and communicate nothing, than to choose ones words with care and compose a work of art. Brevity and conciseness are the keys that open the door to visitor attentiveness and comprehension. Being wordy and non-direct can distort the intended message and a visitor may walk away confused and disillusioned. However, caution must be taken not to sacrifice clarity in message for the sake of brevity (Tilden, 1967).

Exhibits were targeted primarily towards the island campers who possess a higher educational level than the average visitor (See visitor use section Part I). Still, care was taken not to lapse into the pitfall of using unfamiliar or technical jargon. If used at all, these words were explained, ensuring comprehension.

Styles

There are myriad styles a writer has at his or her disposal to communicate information. At the Apostle Islands, few visitors will come into contact with the wayside exhibits. For those visitors that do, it would be unfortunate if the exhibits were ignored.

Sharpe (1976) and Clay Schoenfeld (Professor of Environmental Communication at UW-Madison) have created similar styles in writing interpretive exhibits. Clay Schoenfeld has named this style the 3-30-3 rule and this style was used for the wayside exhibits at the Apostle Islands. The style is discussed below:

- Headline and Graphic = Grab the Audience/3 sec.

It is during the first three seconds that determines whether a person will read an exhibit or pass on by. Exhibits heavy laden with text and absent of graphics will often be ignored. Using catchy titles (e.g. Who is Keeping the Light?) or revealing graphics (images from the past) often lures more visitors to stop and read on.

- Lead Paragraphs = Hold the Audience/30 sec.

Besides holding the audience interest, the first paragraph should be brief, concise, and full of action. It should also serve as a transition from the headline to the interior paragraphs, and introduce the visitor to the site. The interior paragraph should contain detailed information that describes the significance of the site and an appreciation for that site. Even if the visitor chooses to skim over the exhibit, then they have been exposed to the message and have gained some knowledge.

- Interior and Closing Paragraph = Further Action/3 Minutes

Some visitors will continue to read on. People are unaccustomed to standing while reading for long periods of time, hence exhibits should take no longer than three minutes to read. Sentences and paragraphs will be kept short with the text under 150 words for easier and more enjoyable reading. The closing paragraph may further describe the site and/or summarize the key points. Upon completion of reading, the visitor may be provoked to further action (e.g. investigating the site more thoroughly). The visitor may pursue additional information or contact a naturalist to answer any unanswered questions.

Active Voice

Using active voice in composition ensures that the visitor will be involved with the site. Using active voice allows the visitor to become part of the story, by relating to their background of experience and revealing facts based on information. (Tilden, 1967 and Sharpe, 1976). The use of questions and commands may provoke the visitor to venture beyond the information given in the exhibit. Notice in the example below, how the use of active voice in text improves the communication effort.

Passive Voice - Raspberry Island Light Station

This lighthouse was built it had fifteen keepers and twelve assistant lightkeepers working the light.

Active Voice - Who Is Keeping The Light

You are. It is August 5, 1920. You have just been appointed assistant lightkeeper at . . .

Concrete Nouns and Active Verbs

Using concrete nouns and active verbs in writing will help to highlight significant key points of the site (Cook and Kellogg, 1983). For example, instead of saying - "Rock was quarried from this island," try - "Sandstone was carved and hoisted from this quarry on Basswood Island by rugged Norwegian men".

The first sentence fails because the information is too general and no knowledge is gained pertaining to the quarry site. However, the second sentence precisely informs the reader about what was quarried (sandstone = concrete noun), how it was done (carved and hoisted = active verbs), where it was done (Basswood Island - concrete noun), and by whom (rugged Norwegian men = active verb and concrete noun).

GRAPHIC CONSIDERATION

Illustrations

All the exhibits were designed by the author after a site visit and appropriate research during the summer of 1985. Illustrations were drawn by Greg Newell (Seasonal Landscape Architect, Apostle Islands National Lakeshore) and Sylvia Myrhe (Graphic Art Student, UWSP), under the guidance and direction of the author.

Each graphic was designed through basic principles of graphic design (Turnbull and Baird, 1980) in order to effectively move the viewer's eye logical through the exhibit. Instead of reproducing a mirrored image of the site in view, each exhibit will reveal a scene unknown to the visitor.

Labels and Text

One typeface will be used throughout the exhibit plan. Multiple typefaces tend to confuse and detract from readability (Turnbull and Baird, 1980). The typeface Haas Claredon has been chosen as the standard style to be used for all interpretive exhibits displayed by the National Park Service (per. comm. Jim Mack, 1985). It is a familiar letter style with heavy serifs and is easy to read (See Figure 6).

A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z
a b c d e f g h i j
k l m n o p q r s t
u v w x y z

Figure 6. Haas Claredon typeface

- Reprinted from "Signs for parklands",

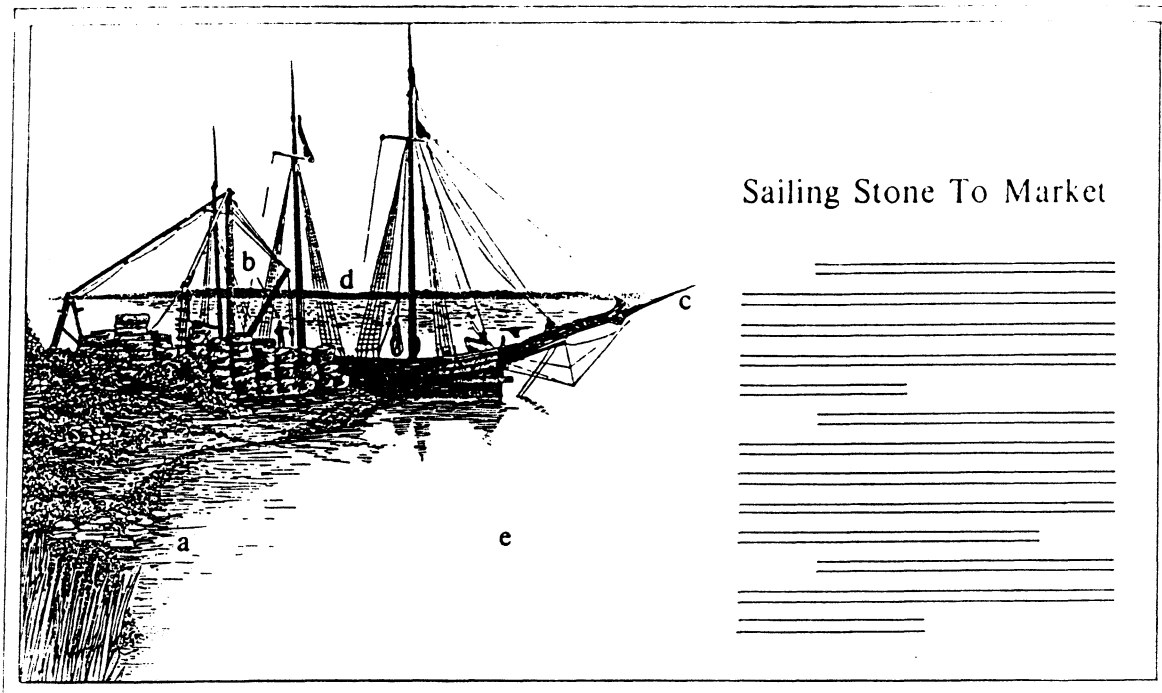
In : Readings in environmental
interpretation, pg. 198.

In addition, the NPS uses standardized type sizes for titles, captions, and text with titles having the largest size, captions a medium size and text having the smallest size (per. comm. Jim Mack, 1985).

Color

Color schemes will be chosen by Lakeshore personnel and Harpers Ferry Design Center. Darker letters will always be used on a lighter background, so letters will jump out to the reader's eye. A third color will be chosen that creates a desired mood or atmosphere concerning the site (e.g. gray and blue to create the atmosphere of a 1920's Lake Superior Fishery).

Below, an exhibit example from the plan is highlighted outlining the major principles used in graphic design.



- a) Using Line: The curving of the shoreline aids in carrying the viewer's eye to the center of the graphic image.
- b) Focal Point: At the end of the shoreline, a man is placed in the schooner, bringing the viewer to the heart of the graphic.
- c) Guiding Lines: The use of the bow of the schooner to carry the viewer's eye to the text for the message.
- d) Depth of Field: Adjacent island is sketched in the background allowing the main image (schooner and stone) to advance.
- e) White Space and Balance: Use of white space to help balance graphic and text from top to bottom and side to side.

PLACEMENT AND ORIENTATION CONSIDERATIONS

Island campers that observe the exhibits will be seeking solitude and a chance to escape from city life (See visitor use section, Part I). An improperly placed exhibit may intrude on their experience.

Many of the exhibits in the plan are located on lengthy hiking trails (2-8 miles) and their presence may be resented by visitors. Exhibits will be located as unobtrusively as feasible to preserve the hiker's experience, while informing them of a resource they might have missed.

Other exhibits at the Hokenson Brothers Fishery, Sand Island Lighthouse, and Raspberry Island Lighthouse will be strategically located for the greatest visitor contact. The sites are all heavily developed and exhibits will clearly enhance visitor contact.

Each exhibit was oriented to provide the greatest view of the resource without distracting from that view. The exhibits will oftentimes be oriented that invite visitors to the resources for further investigation, unless the resource is easily impacted upon by visitor use.

Like placement, an improperly oriented exhibit may limit the visitor experience and limit the efficiency of the communication effort. Compass readings were taken to ensure precise orientation of each exhibit relative to the site. Exhibit 7 - Schroeder Railroad Camp, Exhibit 10 - Beaver Flowage, and Exhibit 13 - Trout Point Lumber Camp are planned for highly undeveloped sites. A general, non-specific placement and orientation will be given for these exhibits. These exhibits are unlikely to be constructed in the immediate future, and placement and orientation can be appropriately decided during site development.

REFERENCES

- Cook, M. and B.R. Kellogg 1983. How to write. In: "Readings in Environmental Interpretation", Coll. Nat. Resour., Univ. of Wisconsin - Stevens Point, Stevens Point.
- Erdman, K. 1981. Writing techniques for interpreters. Interpretation Canada 9:3-7.
- Moeckel, N.J. 1977. Active language in interpretive trail signs and rule leaflets; its effects on visitor enjoyment and information retention. M.S. thesis, Sch. Nat. Resour., Ohio State Univ., Columbus.
- Murphy, S. 1983. Notes on exhibit techniques. In: "Readings in Environmental Interpretation," Coll. Nat. Resour., Univ. of Wisconsin-Stevens Point, Stevens Point.
- Sharpe, G.W. 1976. Interpreting our environment. Univ. of Washington Press, Seattle.
- Tai, D.B. 1981. Evaluation of the use and effectiveness of two types of non-personal interpretive media in Yellowstone National Park. Univ. of Idaho, Moscow.
- Tilden, F. 1967. Interpreting our heritage. Univ. North Carolina Press, Chapel Hill.
- Turnbull, A.T. and R.N. Baird 1980. The graphics of communication. Holt, Rinehart, and Winston, New York.

EXHIBIT PLANS FOR THE
FOLLOWING SITES

<u>ISLAND</u>	<u>NATURAL/CULTURAL SITES</u>	<u># OF EXHIBITS</u>
Basswood	Sandstone Quarry	3
Little Sand Bay	Hokenson Brothers Fishery	2
Oak	Ancient Beach Lines	1
Outer	Schroeder Lumber Camp	1
Raspberry	Light Station	1
Sand	Light Station	1
Stockton	Beaver Flowage	1
Stockton	Bog Overlook	1
Stockton	Sandstone Quarry	1
Stockton	Trout Point Lumber Camp	<u>1</u>
Total		= 13

Content

Apostle Islands NL
Basswood Island Quarry
Wayside Exhibit Plan

Exhibit 1

Subject Orientation and significance of island quarries

Location Placed on the west side of the main trail leading to the quarry. The exhibit will be situated 15-20 feet back from the first overlook, instead of on the overlook railing. This placement will orient the visitor to the site and then invite the visitor to proceed on to investigate the sandstone quarry.

View . Visitors will be lured to the sides of the quarry pit. Looking down, visitors will see the cut sides of the quarry and a moss covered derrick afloat in water accumulated since abandonment and the trail inviting visitors down to the floor of the pit.

Orient'n 210 SW (Visitors will be facing southwest while reading the exhibit)

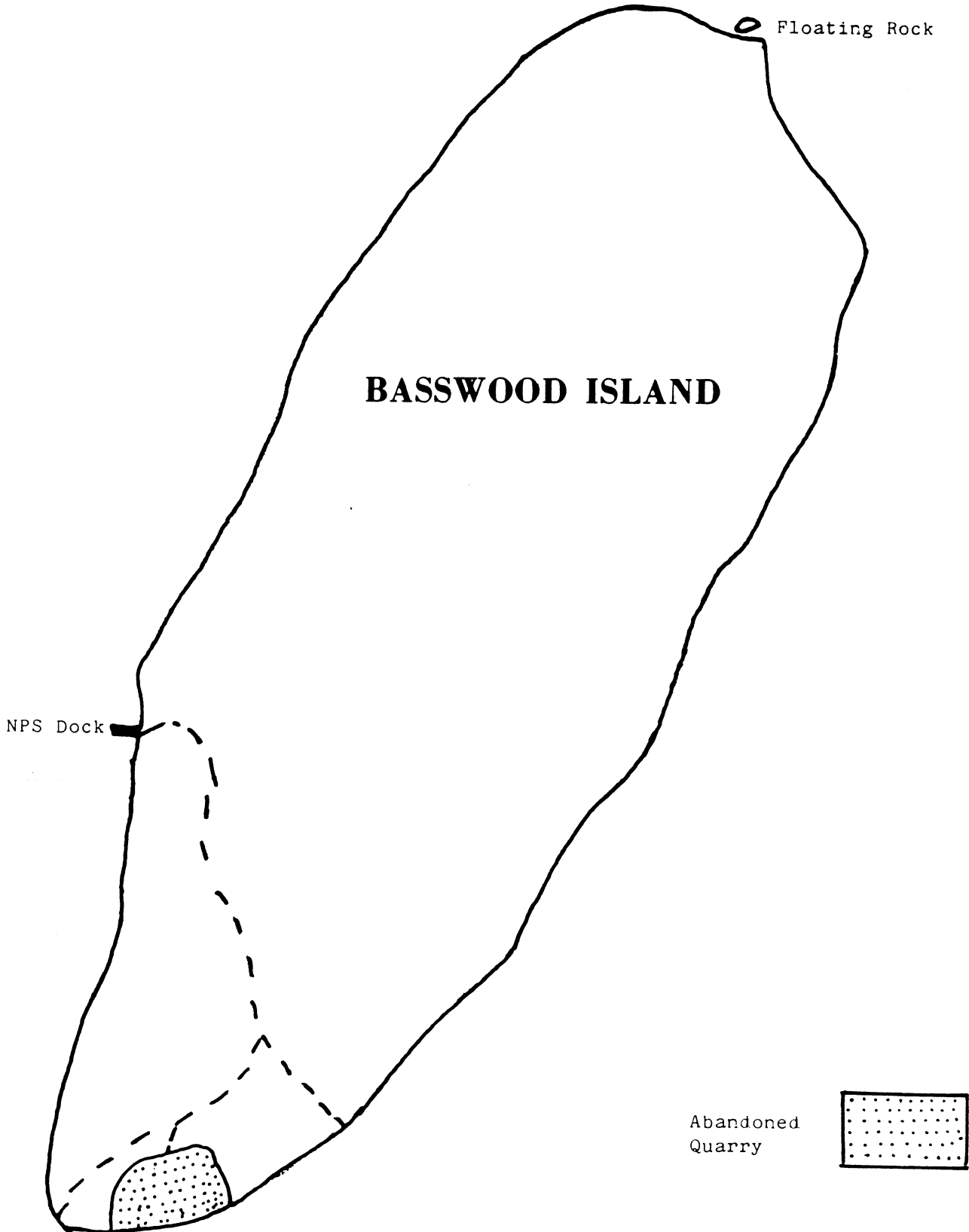
Purpose To introduce visitors to an Apostle Island quarry site. To inform visitors about the importance of the local brownstone industry to the national movement of growth and prosperity.

Rec'mnds An alternative to placing the exhibit in the recommended locale might be to mount the exhibit to the existing overlook railing. Visitors will be drawn to the quarry and may by-pass the exhibit if placed too far back from the overlook.

Island Map

Apostle Islands NL
Basswood Island Quarry
Wayside Exhibit Plan

Exhibit 1



Labels

Apostle Islands NL
Basswood Island Quarry
Wayside Exhibit Plan

Exhibit 1

Title

1-1

A 19th Century Architectural Fad

Main

1-2

Below you are the ruins and relics of the oldest quarry at the Apostle Islands, which operated from 1868-1893. What long-feathered plumed hats were to late 19th century fashion, brownstone was to architecture of the time - a short lived, but popular style.

The stone from this quarry as well as three others on islands were the preferred building material of an emerging industrial nation. Contemporary brownstone buildings first appeared in New York City as a symbol of success and dignity. Not to be outcompeted, midwestern cities soon built courthouses, schools, city halls, churches, and banks from the attractive "brownstone."

By the turn of the century, island quarries were abandoned due to a declining interest in "brownstone" and a faltering national economy. Today a rich diversity of plant and animal life helps to reclaim the land.

Graphics

Apostle Islands NL
Basswood Island Quarry
Wayside Exhibit Plan

Exhibit 1

Art
1-3

An image of an abandoned quarry with pre-cut stones in the foreground. The purpose of the illustration is to convey the size of the blocks cut and how these blocks became the preferred building materials for the nation in the late 19th century. Based on photographs taken by the lakshore staff and author.

Art
1-4

A line illustration revealing the types of buildings constructed from Apostle Islands sandstone. This building is the Milwaukee courthouse. Based on photographs in the Apostle Islands photographic files.

References

- Bayfield Press, March 21, 1885. Vol. 11, no. 22.
- Bayfield Press, May 1, 1886. Vol. 12, no. 28.
- Buckley, Ernest Robertson 1896. On the building and ornamental stones of Wisconsin. Wisconsin Geological Survey. Bull. 10, Madison, WI.
- Eckert, Kathryn Bishop 1985. The sandstone quarries of the Apostle Islands. Midwest Regional Office - National Park Service (NPS) Omaha, NB.
- Huber, Robert W. Autumn, 1979. "Chequamegon's red-brown treasure." Wisconsin Trails, pp. 37-9.
- Lidfors, Kathleen 1983. Sandstone quarries of the Apostle Islands - A resource management plan. Midwest Regional Office - NPS, Omaha, NB.

Content

Apostle Islands NL
Basswood Island Quarry
Wayside Exhibit Plan

Exhibit 2

Subject Technology employed in extracting stone from quarry

Location On the floor of the Basswood Island Quarry in second room near the two historic pre-cut sandstone blocks. Since visitor flow can move from both directions, the exhibit will be placed opposite and parallel to the sandstone blocks. Sandstone blocks are best viewed and examined through this placement.

View The view is limiting due to the exhibit being down in the pit. Directly in front of the visitor is the east wall of the quarry, rising 50 feet to ground level. The sandstone blocks will be behind the visitor during observation. After reading the exhibits, visitors will be provoked to closely examine the blocks.

Orient'n 240 WSW

Purpose To illustrate the evolution of the technology used at the quarries of the Apostle Islands.

Rec'mnds Prudent evaluation may have to be considered in the appropriate placement of this exhibit. Repositioning the pre-cut stones may be an option worth pursuing.

Labels

Apostle Islands NL
Basswood Island Quarry
Wayside Exhibit Plan

Exhibit 2

Title
2-1

Stonecutters of Basswood Island

Main
2-2

Listen closely, can you still hear the steady din of hammers and chisels as they rang and echoed off the walls of this abandoned quarry?

During the winter of 1868, trees were felled and holes blasted removing 20 feet of glacial outwash. Upon reaching the "brownstone" thirty men chisled and wrenched out the stone using steel hammers, wedges, and feathers, all for a \$1 a day. The stone was removed as "dimension stone" that typically measured eight feet by four feet by two feet.

Quarry operations expanded as "brownstone" grew in demand. Often working year round, the stonecutters switched from their crude steel tools to steam drills and channelers, enabling them to cut more stone in less time.

Graphics

Apostle Islands NL
Basswood Island Quarry
Wayside Exhibit Plan

Exhibit 2

Art
2-3

A revealing image of the technology employed in a 19th century "brownstone" quarry on Basswood Island. Based on several historic photos (outlined below). These photographs were a foundational base for the creation and design of the quarry graphic. These photos include:

*Ashland Daily Press - Annual ed. 1893
"A section of the Superior Brownstone Quarries at Bass Island"

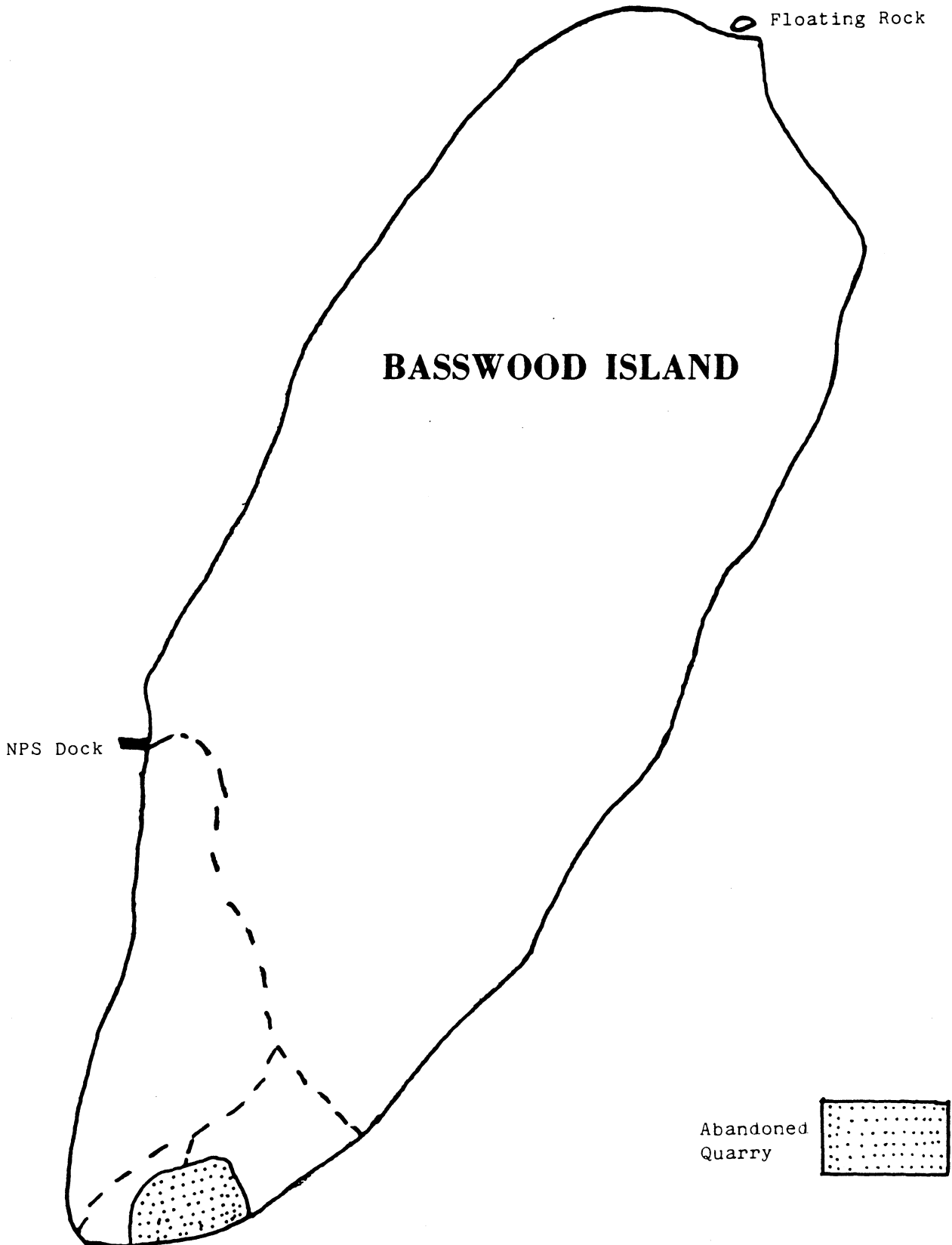
*Bayfield County Historical Happenings
September, 1980. "Our Native Brownstone"

*Ashland Daily Press - Annual ed. 1893
"Docks of the Superior Brownstone Quarries at Ashland Wis." (For accurate depiction of derrick and hoisting apparatus)

Island Map

Apostle Islands NL
Basswood Island Quarry
Wayside Exhibit Plan

Exhibit 2



References

- Bayfield Press, March 21, 1885. Vol. 11, No. 22.
- Bayfield Press, May 1, 1886. Vol. 12, No. 28.
- Buckley, Ernest Robertson 1896. On the building and ornamental stones of Wisconsin. Wisconsin Geological Survey, Bull. 10, Madison, WI.
- Eckert, Kathryn Bishop 1985. The sandstone quarries of the Apostle Islands. Midwest Regional Office - NPS Omaha, NB.
- Huber, Robert W. Autumn, 1979. "Chequamegon's red-brown treasure." Wisconsin Trails, pp. 37-9.
- Lidfors, Kathleen 1983. Sandstone quarries of the Apostle Islands - A resource management plan. Midwest Regional Office - NPS Omaha, NB.

Content

Apostle Islands NL
Basswood Island Quarry
Wayside Exhibit Plan

Exhibit 3

Subject Transporting sandstone to the marketplace

Location On the southside of the trail facing the lake. The exhibit should be located 10-15 feet from the back entrance of the quarry.

View Beyond the exhibit the visitor will be able to see an open space of sparse vegetation. This area was the docking area where stone was stacked on ships headed for Midwestern cities. Remaining on the trail, the visitor will walk into the back room of the quarry.

Orient'n 75 ENE

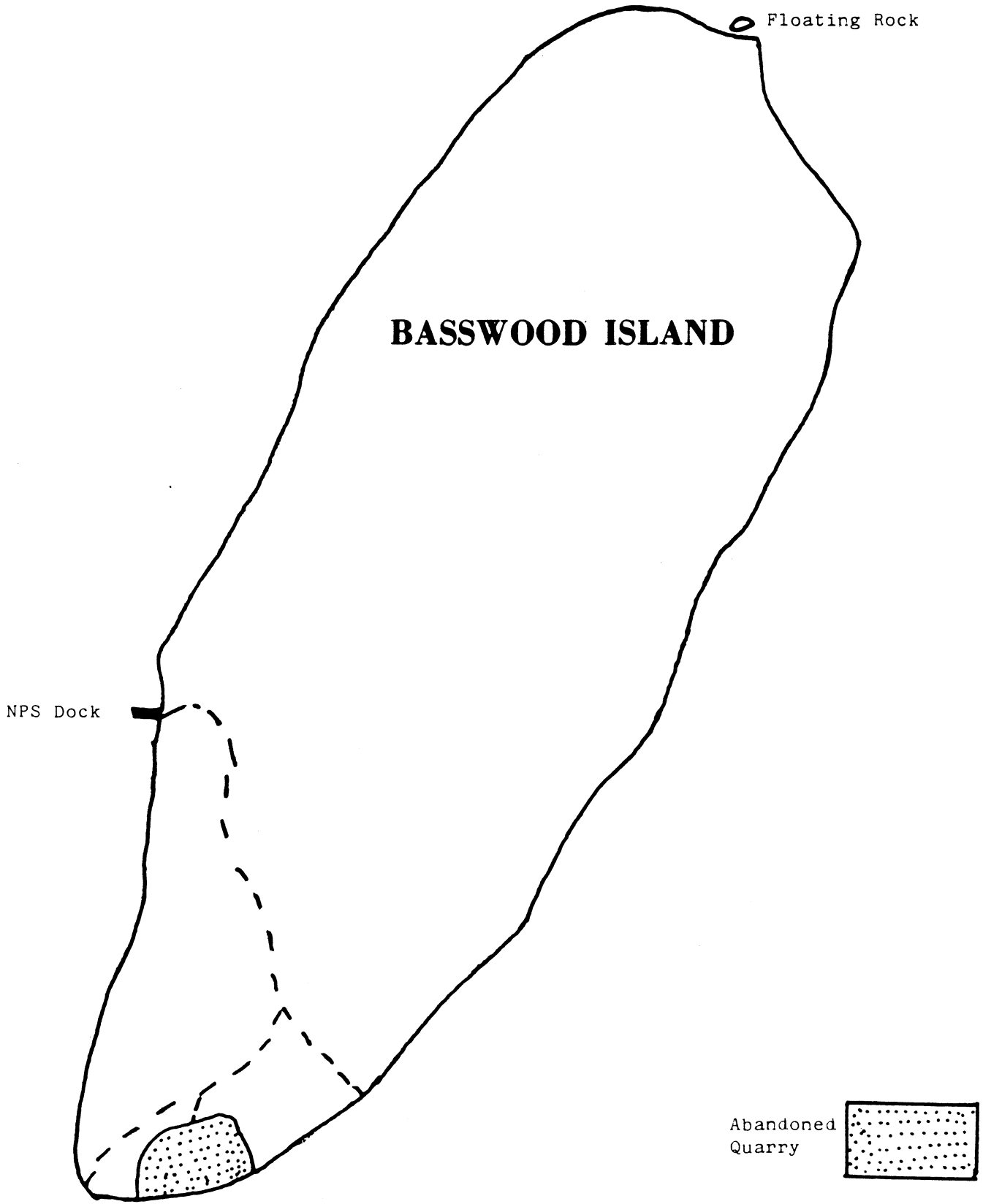
Purpose To orient visitors to the backroom of the quarry and identify the general location of the submerged dock. To illustrate to visitors the shipping advantage of island quarries over mainland ones.

Rec'mnds To construct a short trail leading to the submerged dock in order to entice further action by the visitor.

Island Map

Apostle Islands NL
Basswood Island Quarry
Wayside Exhibit Plan

Exhibit 3



Labels

Apostle Islands NL
Basswood Island Quarry
Wayside Exhibit Plan

Exhibit 3

Title
3-1

Sailing Stone To Market

Main
3-2

Just ahead of where you are standing is the back room of the first brownstone quarry of the Apostle Islands. The room was used as a cache for newly cut stone soon to be shipped.

Island quarries led the way in local "brownstoning" due to their proximity to water. Meanwhile, mainland quarries waited years for the construction of railroads that would transport the stone to growing cities to the south.

Had you been here during the heydays of operations you would have witnessed ten days of cut stone (400-600 tons) manually loaded and stacked on ships from this docking area. Today, you can still see remnants of this submerged dock near the quarry outlet to Lake Superior.

Graphics

Apostle Islands NL
Basswood Island Quarry
Wayside Exhibit Plan

Exhibit 3

Art
3-3

A line illustration depicting the loading of sandstone blocks from an island quarry to a three-mast schooner with the aid of derrick and boom. The illustration helps to explain the method of transport of sandstone headed for midwestern markets via the Great Lakes. Based on a historical photo taken in 1889 entitled Lake Superior Scenery, Basswood Island.

References

Bayfield Press, March 21, 1885. Vol. 11, no. 22.

Bayfield Press, May 1, 1886. Vol. 12, no. 28.

Buckley, Ernest Robertson 1896. On the building and ornamental stones of Wisconsin. Wisconsin Geological Survey, Bull. 10, Madison, WI.

Eckert, Kathryn Bishop 1985. The sandstone quarries of the Apostle Islands. Midwest Regional Office - NPS, Omaha, NB.

Huber, Robert W. Autumn, 1979. "Chequamegon's red-brown treasure." Wisconsin Trails, pp. 37-9.

Lidfors, Kathleen 1983. Sandstone quarries of the Apostle Islands - A resource management plan. Midwest Regional Office - NPS, Omaha, NB.

Content

Apostle Islands NL
Hokenson Brothers Fishery
Wayside Exhibit Plan

Exhibit 4

Subject The twine shed

Location 40 feet back from the east side door of the twine shed.
This vantage point provides the broadest view of the
building.

View The scene from the exhibit area will be a side view of
the twine shed. To the south two old wooden skiffs and
a 10 feet tall fish net drying rack are visible. To
the north, the remaining buildings (i.e. ice house,
herring shed, and L-shaped dock) of the fishery can be
seen.

Orient'n 320 NW

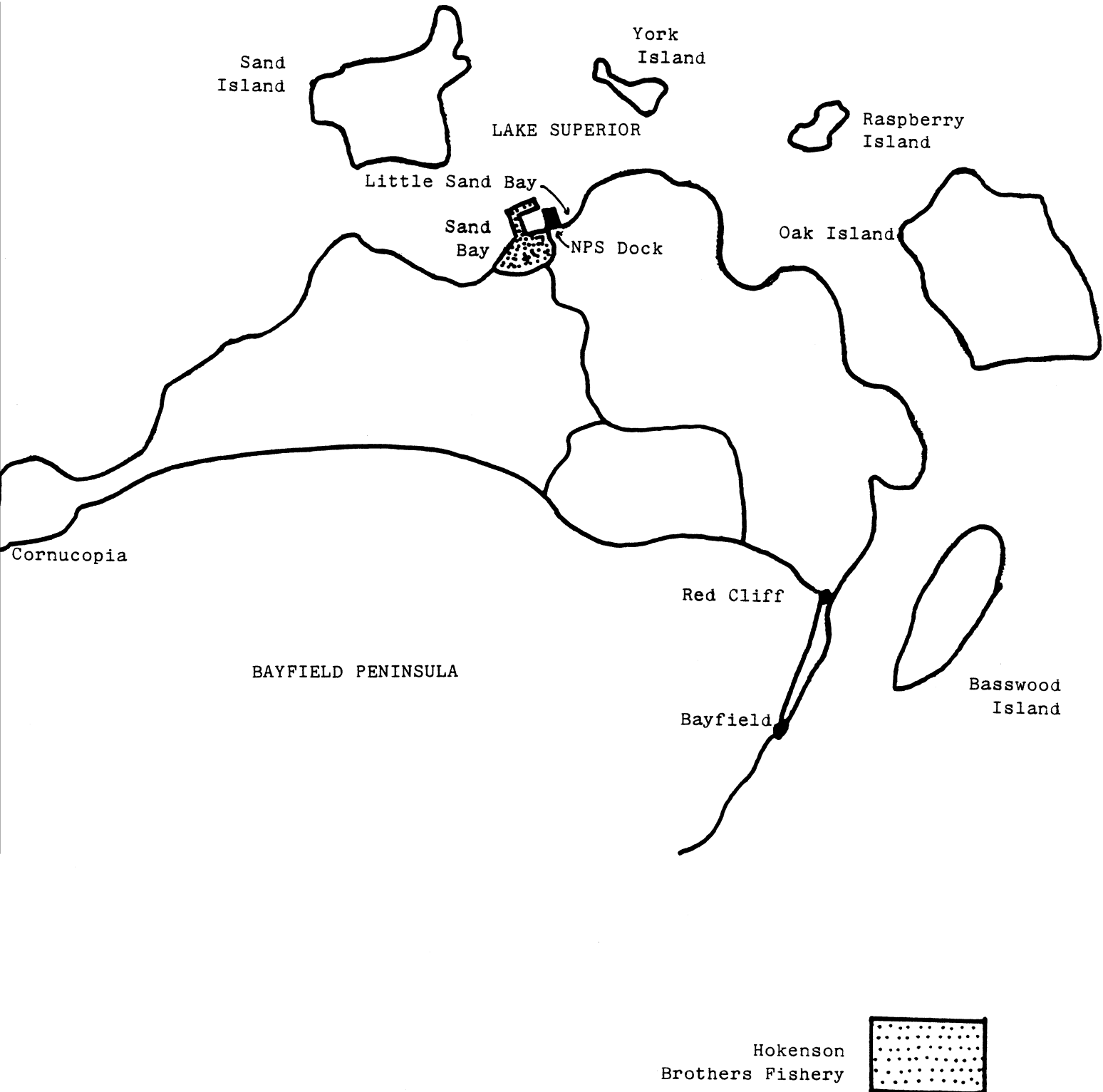
Purpose To describe the importance of the twine shed as the
operational site and headquarters of the fishery.

Rec'mnds This exhibit will be the second exhibit in a series of
three at this site. The first should be appropriately
placed once the visitor flow is known for this site.
If the flow begins from the asphalt road, an appro-
priate location may be near the existing brochure box.
If this is implemented then the exhibits will be in a
logical sequence that can be easily followed and under-
stood by visitors.

Island Map

Apostle Islands NL
Hokenson Brothers Fishery
Wayside Exhibit Plan

Exhibit 4



Labels

Apostle Islands NL
Hokenson Brothers Fishery
Wayside Exhibit Plan

Exhibit 4

Title

4-1

A Storehouse of American Industriousness

Main

4-2

Resembling a barn, this twine shed was hand built by the Hokenson brothers and served as a warehouse for their enterprising fishery.

The shed was built during a time in our nation of scarce resources and an inadequate distribution of goods. With no stores to turn to, the brothers depended on their inventiveness, creativity, and hard work to fabricate their fishing supplies and equipment. Nets were hand-sewn and mended, anchors forged, steel tools tempered and sharpened, and wooden boats and oars carved and preserved.

Graphics

Apostle Islands NL
Hokenson Brothers Fishery
Wayside Exhibit Plan

Exhibit 4

Art
4-3

The goal of the graphic design is to invite visitors to peer back into the past. The pen and ink drawing illustrates only a facet of operations at the fishery. A fisherman is shown mending a net during the winter months, which may very well have been a common sight. Based on a site visit to the existing twine shed and a conceptual image created by the author.

References

- Fritz, David L. Feb., 1984. Historic furnishing study - package no. 150 - Apostle Islands Hokenson Fishing Dock. Midwest Regional Office - NPS, Omaha, NB.
- Fritz, David L. Feb., 1984. Historic structure report - historical data section of package no. 150 - Apostle Islands Hokenson Fishing Dock. Midwest Regional Office - NPS, Omaha, NB.
- Fritz, David L. Feb., 1984. Special history study - family managed commercial fishing in the Apostle Islands during the 20th century with background information on commercial fishing on Lake Superior. Midwest Regional Office - NPS, Omaha, NB.
- Hokenson, Roy and Irene. Notes from an interview on December 9, 1981.
- NPS. "A guide to the Hokenson Brothers Fishery - Little Sand Bay." A self-guided trail brochure.

Content

Apostle Islands NL
Hokenson Brothers Fishery
Wayside Exhibit Plan

Exhibit 5

Subject Lake Superior fishing and the fishing tug "The Twilite"

Location At the head of the stairs leading down to the shores of Little Sand Bay. The exhibit will be placed on the west side near the stairs. The exhibit will be oriented to accomodate several visitors simultaneously observing the exhibit. Due to the proximity of the exhibit to the stairs, safety considerations need to be addressed for appropriate placement.

View Looking down, visitors will see the ice house which was used to store ice year round. Looking beyond the ice house, visitors will catch a glimpse of the fishing tug "The Twilite". Further viewing will reveal the L-shaped dock and its adjoining herring shed on Lake Superior.

Orient'n 320 NW

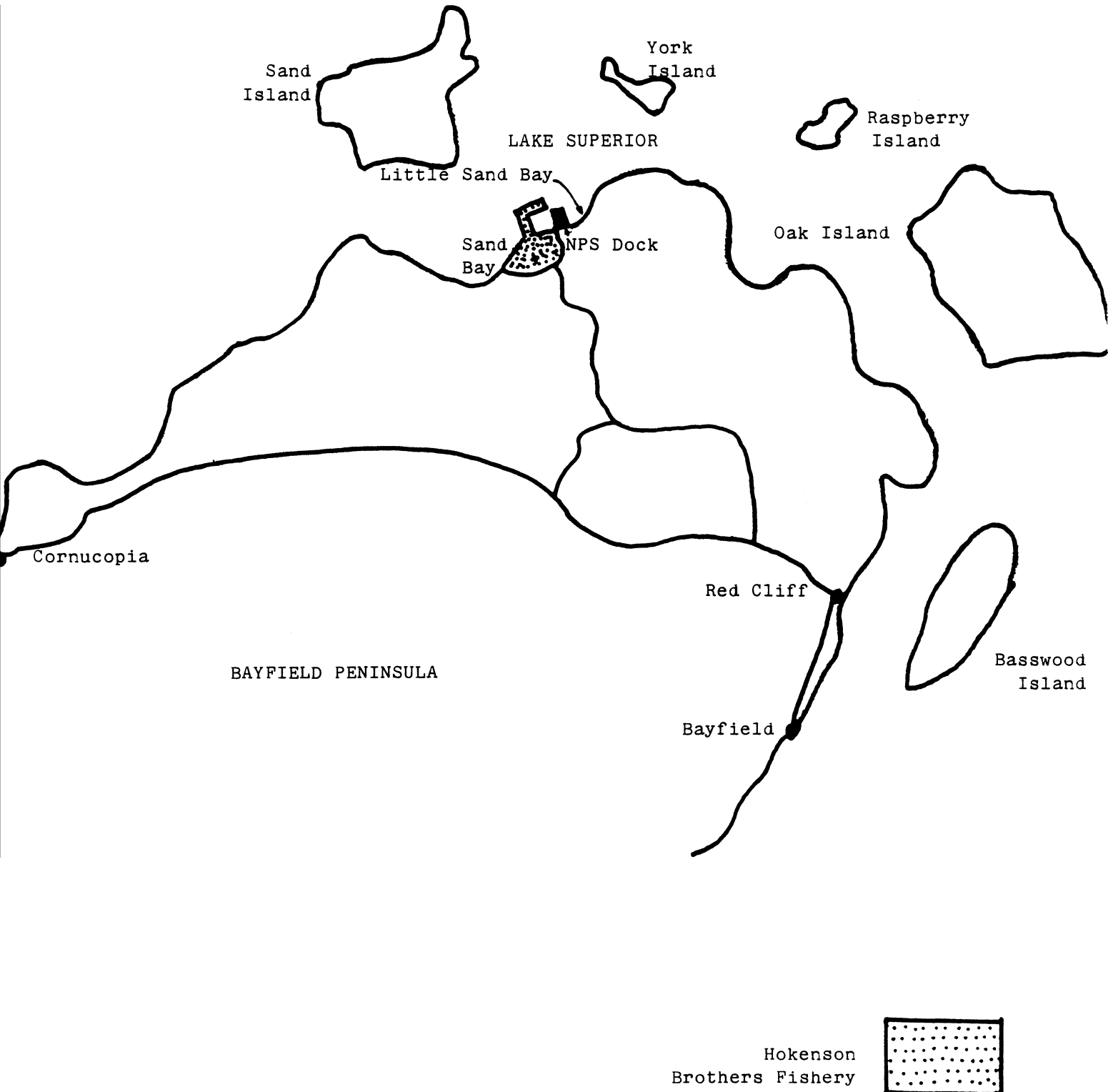
Purpose To illustrate the daily lives of commercial fishermen during the "heydays" of the industry on Lake Superior. To explain how the tug "The Twilite" boasted the Hoken-son fishery.

Rec'mnds This will be the third and final exhibit at the Hoken-son Fishery site. This exhibit could be placed on the beach, if it were removed after each summer season to protect it from inclement weather.

Island Map

Apstote Islands NL
Hokenson Brothers Fishery
Wayside Exhibit Plan

Exhibit 5



Labels

Apostle Islands NL
Hokenson Brothers Fishery
Wayside Exhibit Plan

Exhibit 5

Title
5-1

"Twilite" on Lake Superior

Main
5-2

The sun sets behind Sand Island to the northwest. Its time to relax and settle in by the fire for a warm evening. Right? Wrong! In early years, twilight meant the beginning of an evening of fishing for the Hokenson brothers.

At first the brothers fished only for lake trout and whitefish. Though their catch was profitable, they could no longer remain idle and watch their fellow fishermen bring in \$40 a day during the November herring runs. Therefore, the wooden, diesel-powered fishing tug - "The Twilite" - was built and so named in honor of their earlier fishing habits.

Halvor Reiten of Bayfield, a cousin of the Hokenson's, helped to design and build "The Twilite". Halvor built her 38 feet long and equipped her with a winch called a net lifter. The net lifter was used to haul in a "gang" of gill nets heavy laden with herring.

Graphics

Apostle Islands NL
Hokenson Brothers Fishery
Wayside Exhibit Plan

Exhibit 5

Art
5-3

An image to create the flavor of the Hokenson Fishery dock and tugboat during the heydays of commercial fishing. To create a sense for the time of day (twilight), that depicts the brothers' earlier fishing habits. Based on several site visits by the author in which rough sketches and photographs were taken.

References

- Fritz, David L. Feb., 1984. Historic furnishing study - package no. 150
Apostle Islands Hokenson Fishing Dock. Midwest Regional Office -
NPS, Omaha, NB.
- Fritz, David L. Feb., 1984. Historic structure report - historical data
section of package no. 150 - Apostle Islands Hokenson Fishing Dock.
Midwest Regional Office - NPS, Omaha, NB.
- Fritz, David L. Feb., 1984. Special history study - family managed
commercial fishing in the Apostle Islands during the 20th century
with background information on commercial fishing on Lake Superior.
Midwest Regional Office - NPS, Omaha, NB.
- Hokenson, Roy and Irene. Notes from an interview on December 9, 1981.
- NPS. "A guide to the Hokenson Brothers Fishery - Little Sand Bay." A
self-guided trail brochure.

Content

Apostle Islands NL
Ancient Beach Lines
Wayside Exhibit Plan

Exhibit 6

Subject Glacial Lake Duluth beach lines on Oak Island

Location 100 yards from the junction of the Sandspit Trail and the Overlook Trail on the Sandspit Trail. The exhibit will be placed at the highest point of the Apostle Islands on the northside of the trail. The beach ridge extends for several hundred yards and the exhibit should be placed in an area that affords optimal viewing. Visitors should be able to detect the change in elevation from the top of the beach line to its bottom (at least a 25 foot elevation change is present in this area).

View To the north the view is one of an elevational drop in the forest. This lowland area was part of Lake Superior 10,500 years ago. In all other directions the visitor is surrounded by an even-aged, deciduous-hardwood forest with no visible landmarks.

Orient'n 15 N

Purpose To explain that the islands are geologically young. To describe glacial dynamics as the major force in shaping the basin of Lake Superior. To illustrate that the Apostle Islands were exposed only after lake levels dropped when new drainage outlets were opened.

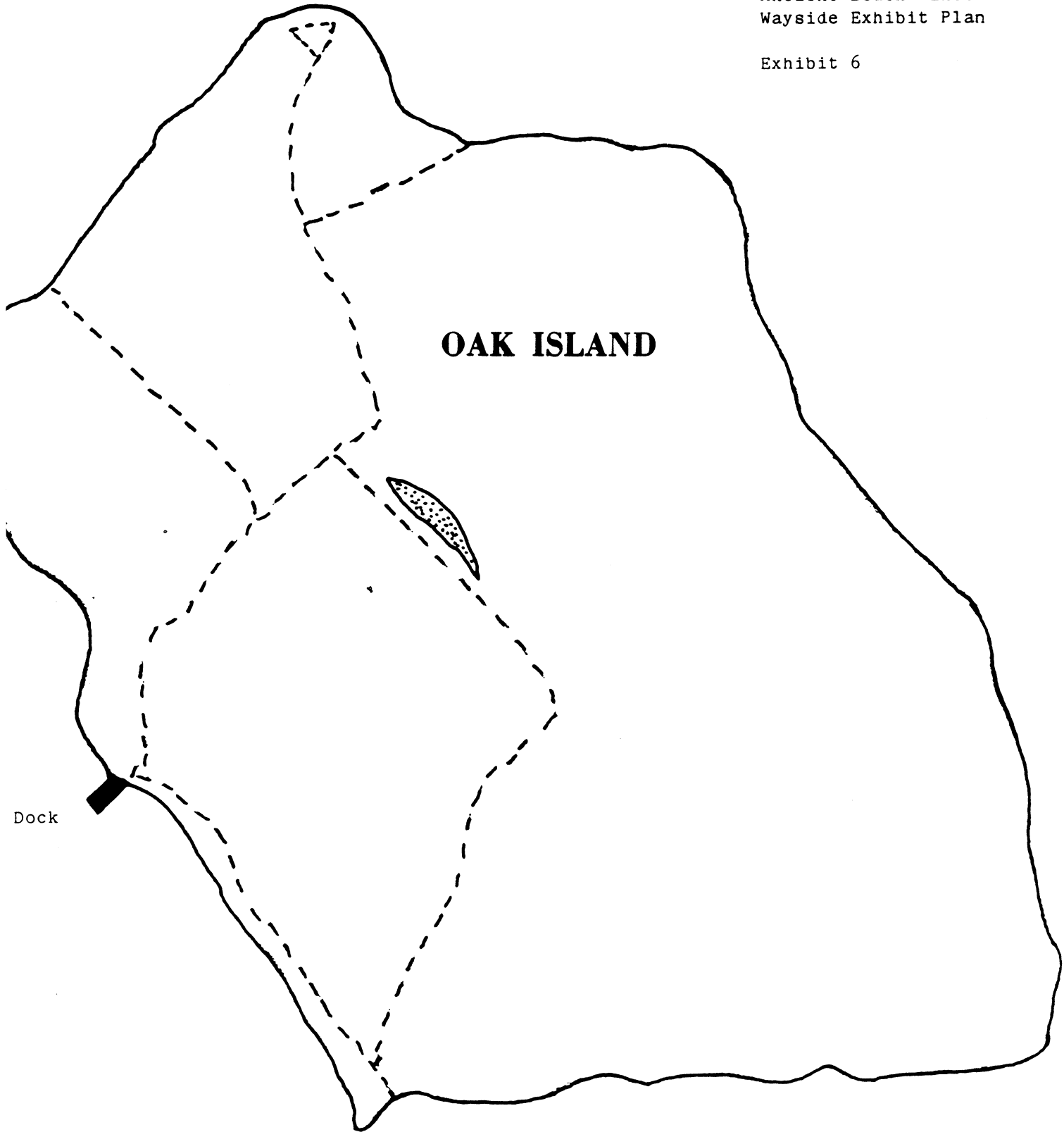
Rec'mnds

The Sandspit trail is open for visitor traffic from the east and the west. In order to ensure that visitors traveling from both directions have the opportunity to observe the exhibit, a pull-off should be constructed. The pull-off would be a widening of the existing trail. The pull-off will allow visitors to spend the time reading/viewing the exhibit while being off the main trail.

Island Map

Apostle Islands NL
Ancient Beach Lines
Wayside Exhibit Plan

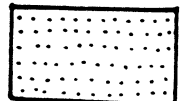
Exhibit 6



Dock

OAK ISLAND

Ancient
Beach Lines



Labels

Apostle Islands NL
Ancient Beach Lines
Wayside Exhibit Plan

Exhibit 6

Title

6-1 1,081 Feet Above Sea Level

Subtitle

6-2 "A Curious Place for a Beach"

Main

6-3 You are standing atop the highest point of the Apostle Islands, a ancient beach line. Look closely and you may see the polished sand grains and pebbles of this beach.

10,500 years ago, this small sand ridge was the only Apostle Island above water. Beach grasses and low growing shrubs were predominant here. Instead of swatting mosquitos your targets might have been sand flies. The water below would have been just above freezing with a melting glacier 140 miles to the east.

Covering the western third of the basin, the lake drained through the Mississippi Valley. Centuries later, melting ice exposed lower outlets near Marquette, Michigan leaving old outlets high and dry. Lake levels plummeted to an all time low and filled the Lake Superior basin.

Since then, the land has been rebounding, free from the tremendous weight of the glaciers. Lake levels have risen and the ancient beach before you persists nearly 500 feet above today's lake.

Apostle Islands NL
Ancient Beach Lines
Wayside Exhibit Plan

Exhibit 6

Map Caption
6-4

Oak Island as it may have appeared 10,500 years ago

Diagram
Identifier
6-5

Glacial Lake Duluth, 8,500 B.C.

Diagram
Identifier
6-6

Lake Superior, present day

Graphics

Apostle Islands NL
Ancient Beach Lines
Wayside Exhibit Plan

Exhibit 6

Aerial Representation

6-7 The line illustration reveals what Oak Island may have looked like 10,500 years ago as the only Apostle Island. An attempt is made to illustrate the difference in vegetation today (hardwood forest) and the vegetation then (beach grasses and shrubs). Based on a topographic map of the highest contour on Oak Island representing Glacial Lake Duluth beach lines. Vegetation was based on aerial photographs of various treeless islands.

Map 6-8

Simple line diagram representing the position of ice lobes during the Valdres retreat. Notice that Oak Island is the sole Apostle Island. Based on a diagram on pp. 193 of Quater-nary history of Lake Superior, by W.R. Farrand in Proc. 12th Conf. of Great Lakes Res., 1969.

Map 6-9

The second map helps to compare and contrast the Lake Superior of today with the lake 10,500 years ago. Towns and villages are included to highlight areas once covered by glaciers and new drainage areas. Based on a map on pp. 8 in The glacial lakes around Michigan, by R.W. Kelley and W.R. Farrand, Geological Survey, Bull. 4, 1967.

References

- Dalton, Terry 1982. "The glacial shoreline of the Apostle Islands. In-house document at the Apostle Islands.
- Farrand, W.R. 1969. "The quaternary history of Lake Superior." In Proc. 12th Conf. on Great Lakes Res. pp. 181-197.
- Harrard, W.J. 1960. Former shorelines of western and northern Lake Superior. University of Wisconsin, Madison, WI.
- Hough, Jack L. 1958. Geology of the Great Lakes. University of Illinois Press, University of Illinois, Champagne-Urbana, IL.
- Kelley, R.W. and W.R. Farrand 1967. The glacial lakes around Michigan. State of Michigan, Dept. of Nat. Res., Geol. Sur. Bull. 4.
- Mengel, J.T. Jr. 1969. Geology of the Western Lake Superior Region. Wisconsin State University, Dept. of Geo., Superior, WI.

Content

Apostle Islands NL
Schroeder R.R. Camp
Wayside Exhibit Plan

Exhibit 7

Subject The Schroeder R.R. Logging Camp on Outer Island

Location
View Due to the primitive conditions of the logging campsite
Orient'n specific location of the exhibit is not recommended.

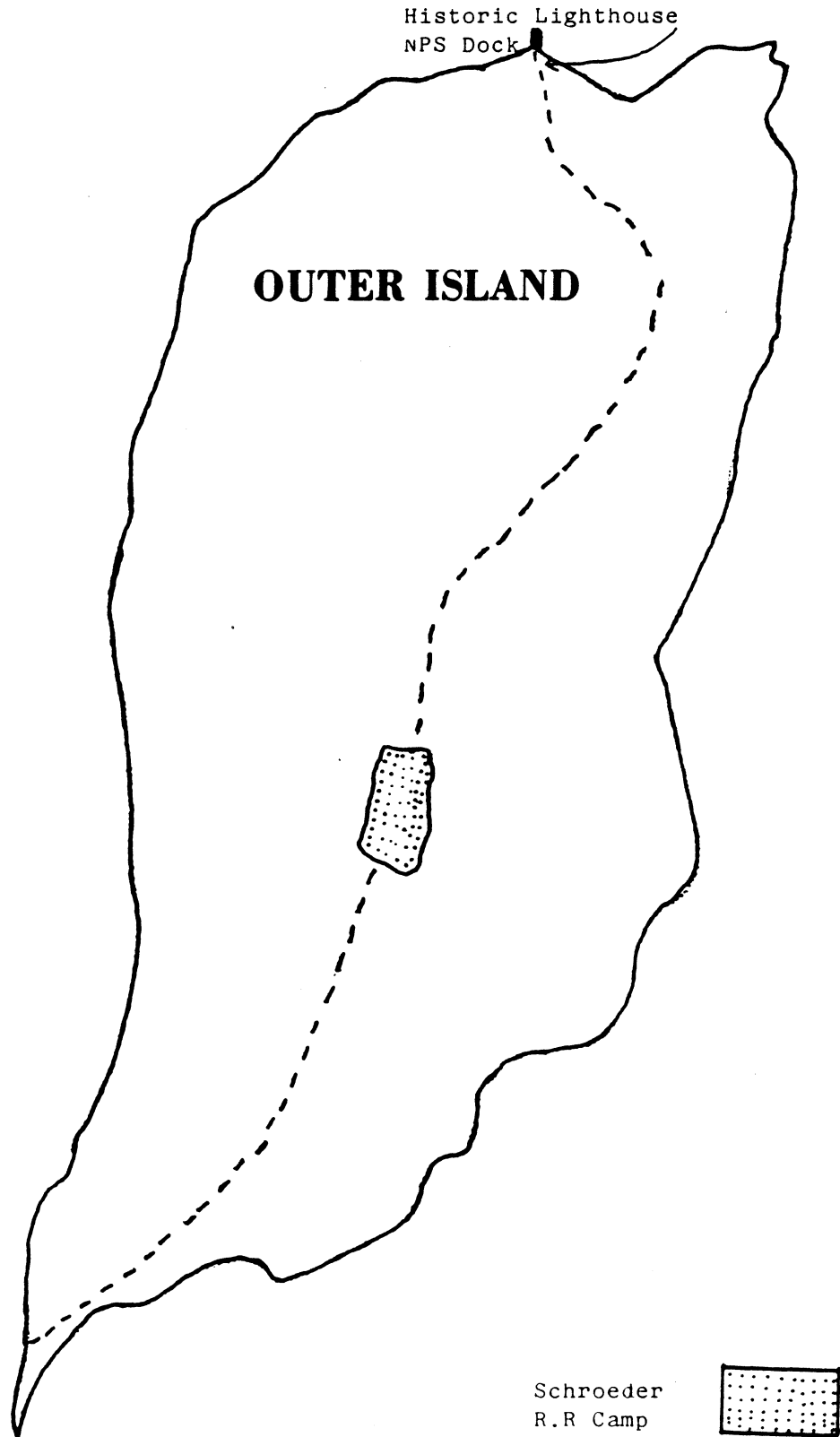
Purpose To describe the history of logging at Outer Island and
 provide an appropriate perspective of railroad logging
 practices and how those practices impacted the natural
 forests. To illustrate the desires and motivations of
 lumber barons to risk lives and money in bringing down
 the last of the tall trees in the Apostle Islands. To
 discuss the novel technology of the geared "Lima Shay"
 engine in the 20th century and how it helped to trans-
 fer logs quicker and efficiently.

Rec'mnds The Schroeder Railroad Lumber Camp has been given top
 priority for interpretive services, because it repre-
 sents the only logging camp of the Lakeshore that
 practiced railroad logging. However, the location of
 the camp is on Outer Island which receives less than
 fifty visitors a year and visitor services are poorly
 developed. For these reasons I recommend that the
 railroad logging story of Outer Island be told at the
 Bayfield Visitor Center through exhibits and/or inter-
 pretive films/slide shows.

Island Map

Apostle Islands NL
Schroeder R.R. Camp
Wayside Exhibit Plan

Exhibit 7



Labels

Apostle Islands NL
Schroeder R.R. Camp
Wayside Exhibit Plan

Exhibit 7

Title

7-1

Timbering by Iron Horse

Main

7-2

Even remote Outer Island and its timber resources could not escape from the lumberman's axe. Pine and hemlock fell first and were completely exhausted by the 1890's. Logging ceased for a time allowing the island to recover from these intensive logging practices.

In the 1920's the Schroeder Lumber Company of Ashland returned to harvest the southern third of the island for its towering birches and maples. Installing a railroad the island was logged only during the summer. At other times of the year strong island currents prevented safe travel over winter ice for supplies and medical emergencies.

Two locomotives replaced the slow pull of horse teams often used in winter logging operations. One engine was the geared "Lima Shay", which would not lose its pull on steep grades. Screaming down 12 miles of track, the "Lima Shay" carried logs to the southern tip of the island to be later loaded on steamships headed for Ashland sawmills.

Graphics

Apostle Islands NL
Schroeder R.R. Camp
Wayside Exhibit Plan

Exhibit 7

Art
7-3

A real-life representation of an early 20th century railroad logging camp operation. The graphic clearly illustrates the extent and effort involved in moving timber by rail. Further the graphic depicts how that timber was loaded on steamers which carried the logs to area saw mills. Based on historical photographs from the Bayfield Press (circa 1920's). Further based on photographs of the "Lima Shay" geared engine in The Wisconsin Logging Book 1839-1939. (p. 35) by Malcolm Rosholt.

References

- Bayfield Press. Resume timber cutting on Outer Island. (c.a. 1920's).
- Frie, R.F. 1951. Empire in pine:the story of lumbering in Wisconsin 1830-1900. State Historical Society, Madison.
- Lidfors, K. 1983. Historic logging in the Apostle Islands National Lakeshore: A resource management plan. On file at the Apostle Islands.
- _____, 1984. Historic logging sites in Apostle Islands National Lakeshore: footnotes to a forest's history. On file at the Apostle Islands.
- McCoy S., J. Dean and M. Dewey, 1978. Yarns of Wisconsin. Wisconsin Trails, Madison.
- Nelligan, T.E. 1969. A white pine empire; the life of a lumberman. North Star Press, St. Cloud.
- Rector, W.G. 1953. Log transportation in the lake states lumber industry 1840-1918. A.H. Clark Co., New York.
- Rosholt, M. 1980. The Wisconsin logging book 1839-1939. Palmer Publ. Inc., Rosholt.
- Twining, C. 1983. The Apostle Islands and the lumbering frontier. Wisconsin Mag. of Hist. 66(3):205-226.

Content

Apostle Islands NL
Raspberry Island Light
Wayside Exhibit Plan

Exhibit 8

Subject Life as a Raspberry Island Lightkeeper

Location Near the present exhibit area. A mountain ash planted thirty years ago now blocks a clear view of the lighthouse. The new exhibit should be placed 10-15 feet south of the existing exhibit. This will afford optimal viewing of the lighthouse and be far enough away to keep the growing tree from blocking the exhibit in the future.

View To the north is the Raspberry Island Lighthouse. To the east York Island can be seen through the trees. To the south visitors will see Lake Superior below.

Orient'n 40 NE (Changed from existing exhibit orientation of 0 N).

Purpose To create an exhibit that will augment the present rennovative work being done at the lighthouse. To describe the duties of a lightkeeper and how their commitment and dedication guided mariners around the archipelago for decades.

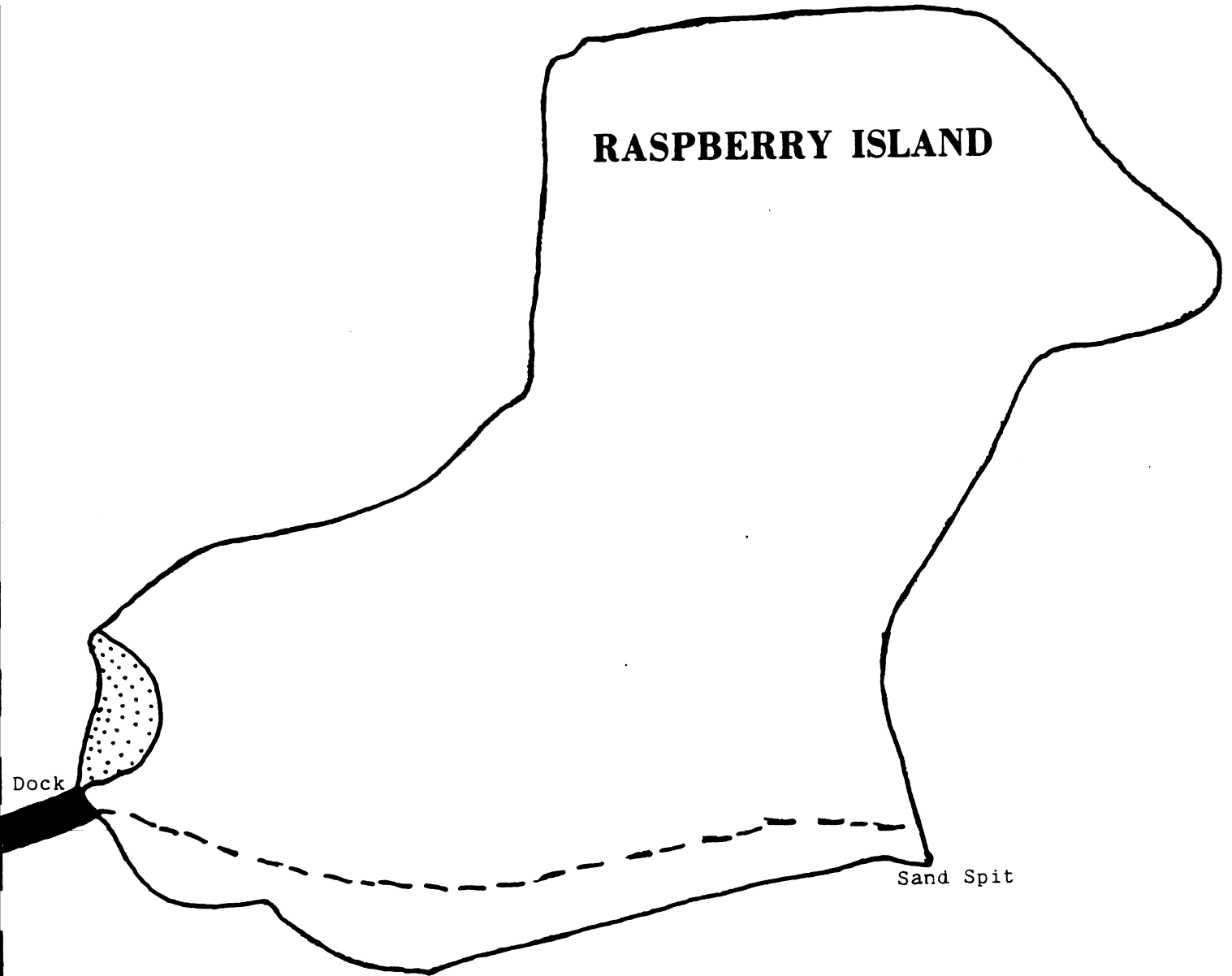
Rec'mnds Though this site has heavy personal interpretation, the exhibit can still fill a void. Many visitors visit this site when the naturalist is off duty. The wayside exhibit can fill the gap that is left by the absence of the naturalist.

Island Map

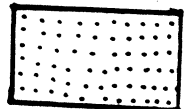
Apostle Islands NL
Raspberry IS Lighthouse
Wayside Exhibit Plan

Exhibit 8

RASPBERRY ISLAND



Raspberry
Light Station



Labels

Apostle Islands NL
Raspberry Island Light
Wayside Exhibit Plan

Exhibit 8

Title
8-1

Who's Keeping The Light?

Main
8-2

You are. The day is August 5, 1920. You have just been appointed as the 1st Assistant Lightkeeper on Raspberry Island. Your tour of duty starts today, terminates on December 1st, and will resume once again next April 1st. Lee Benton, Head Lightkeeper will live next door and be your only neighbor. You will share the west wing of the lighthouse with the 2nd Assistant Lightkeeper when he arrives.

The lightstation was built in 1862 and your service and dedication will guide mariners on their way as it has done for the past 60 years. Your job will be to keep the light bright from thirty minutes prior to sunset to thirty minutes after sunrise.

When not polishing brass or trimming wicks, you might be tending the communal vegetable garden. Your family will help to nurture the bountiful floral garden while cordially greeting visitors. Good luck and welcome to the crown jewel of the Great Lakes' lighthouses.

Graphics

Apostle Islands NL
Raspberry Island Light
Wayside Exhibit Plan

Exhibit 8

Art
8-3

A cut-away representation of the Raspberry Island lighthouse and furnishings circa 1920's. The lighthouse keeper is in the tower polishing the fresnel lens, while his wife tends to the floral garden. Based on a site visit and a composite of photos taken by the author. Lighthouse keeper attire based on the slide entitled - Ed Lane, Keeper of Michigan Island light H-25-III/99. Wife's attire and inside furnishing based on photos in existing exhibit area within the Raspberry Island lighthouse.

References

Albrecht, Don Aug. 24, 1978. "Connie Frostman - One of today's light-house keepers." Superior Times.

Anon. "History of Raspberry Island Light Station." In-house document at the Apostle Islands.

Anon. "Overview of light station history at Apostle Islands National Lakeshore." In-house document at the Apostle Islands.

Durocher, Evelyn. Notes from an interview on August 19, 1980.

Seseman, Thyra. Notes from a letter written on July 3, 1982.

Content

Apostle Islands NL
Sand Island Lighthouse
Wayside Exhibit Plan

Exhibit 9

Subject History of Sand Island Lighthouse

Location To the east of the lighthouse at the same location as the existing exhibit.

View Looking to the south the visitor will see the attractive "brownstone" lighthouse. Looking beyond the exhibit to the east, York Island is visible. Looking to the north, Lake Superior and lighthouse point is visible.

Orient'n 120 ESE

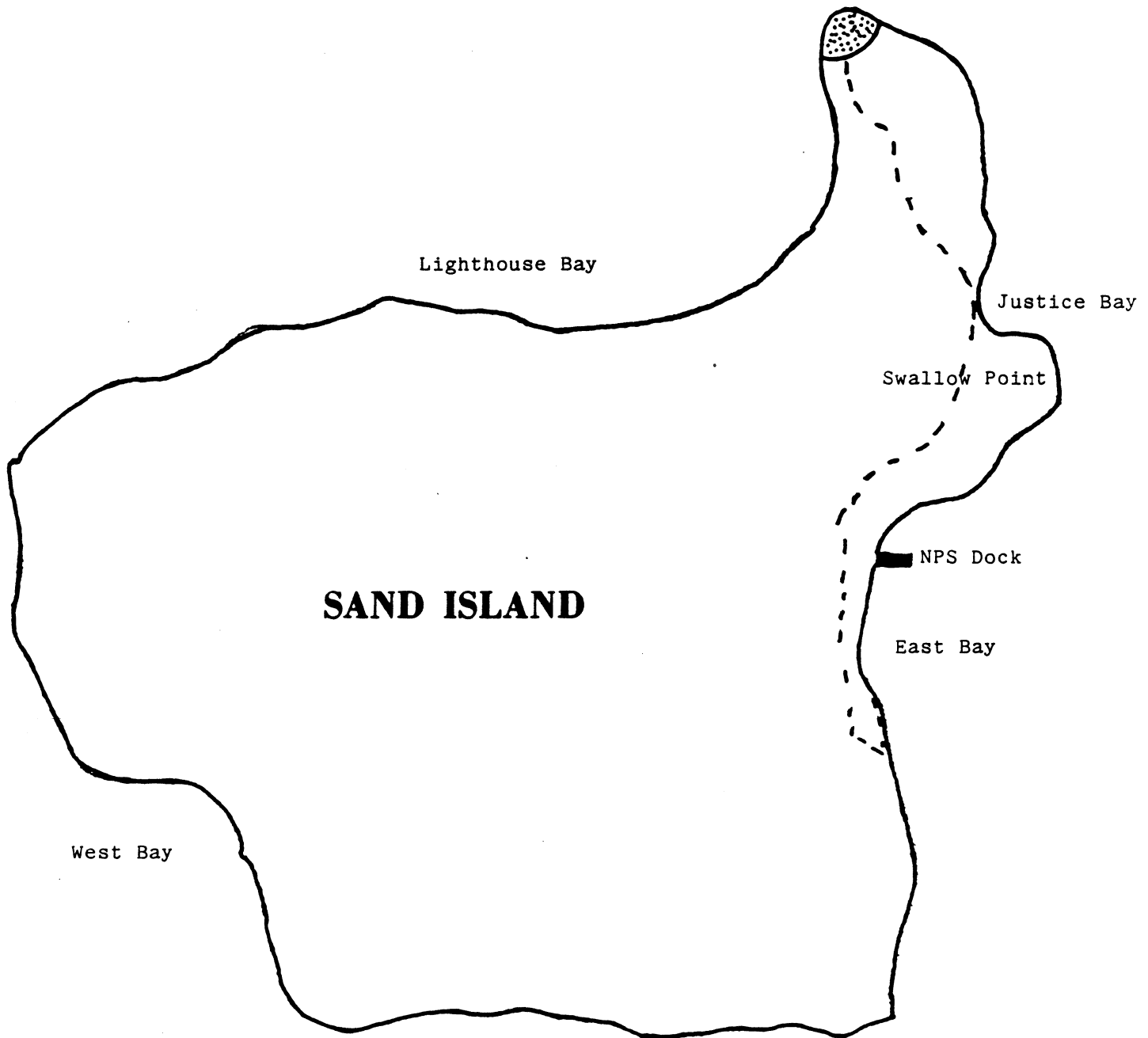
Purpose To highlight the significance of the Sand Island Lighthouse as an essential navigation aid amongst the Apostle Islands. To describe the evolution of manned to automated lights and how the Sand Island light continues to influence the safe travel of the mariner.

Rec'mnds An additional exhibit focusing on the Sevona shipwreck would be ideal for placement on Sand Island. The exhibit would have great impact since the visitor would clearly see the island shoals that caused the Sevona to break up on September 2, 1905. Moving the LSB exhibit and adding to the story would be a great asset to the interpretive effort on Sand Island.

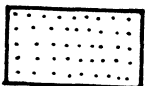
Island Map

Apostle Islands NL
Sand Island Lighthouse
Wayside Exhibit Plan

Exhibit 9



Sand Island
Lighthouse



Labels

Apostle Islands NL
Sand Island Lighthouse
Wayside Exhibit Plan

Exhibit 9

Title
9-1

Sand Island's Guiding Light

Main
9-2

Built of sandstone quarried from the point you are standing on the Sand Island lighthouse marks the western end of the archipelago. Construction began after ten years of demands by a growing Great Lakes shipping industry. On September 25, 1881, the Sand Island lighthouse became the fourth functioning Apostle Island lighthouse.

As mariners headed down the lake from Duluth, they could not see the hazardous shoals surrounding Sand Island or the beacon further to the east on Raspberry Island. With the aid of the new light, steamers for the first time were safely guided through south shore lanes to Ashland.

Manned for more than 40 years, the Sand Island light was the first Apostle Island light to be automated by the U.S. Coast Guard in the early 1920's. Although, the light is no longer kept bright by dedicated keepers, it continues to be a friend of the seafaring mariner.

Graphics

Apostle Islands NL
Sand Island Lighthouse
Wayside Exhibit Plan

Exhibit 9

Art
9-3

A representational view of the lighthouse during a rainstorm. It was during foul weather that the lighthouse became a significant navigational aid serving and warning the mariner of dangerous conditions. Based on a historical photo with the following information - Original Sharp, Negative number -WH1(x3)33750, Classification file - 1918. Also based on several photographs taken by the author during a site visit.

References

- Anon. "Lighthouses of the Apostle Islands." In-house document at the Apostle Islands.
- Anon. "Structures at the Sand Island Lighthouse." In-house document at the Apostle Islands.
- Ashland Press, Oct. 17, 1944. "Sand Island History."
- Bayfield Press, Dec. 27, 1956. "Sand Island was a favorite of Sam Fifield - Scenic features of Sand Island."
- Cobblestone Publishing, 1981. Lighthouses. Eastern Acorn Press, New York.

Content

Apostle Islands NL
Beaver Flowage
Wayside Exhibit Plan

Exhibit 10

Subject Influence of beavers on natural island water systems

Location Due to the extreme primitive conditions (no trail yet
View exists) of the beaver ponds on Stockton Island, speci-
Orient'n fic location of the exhibit is not recommended.

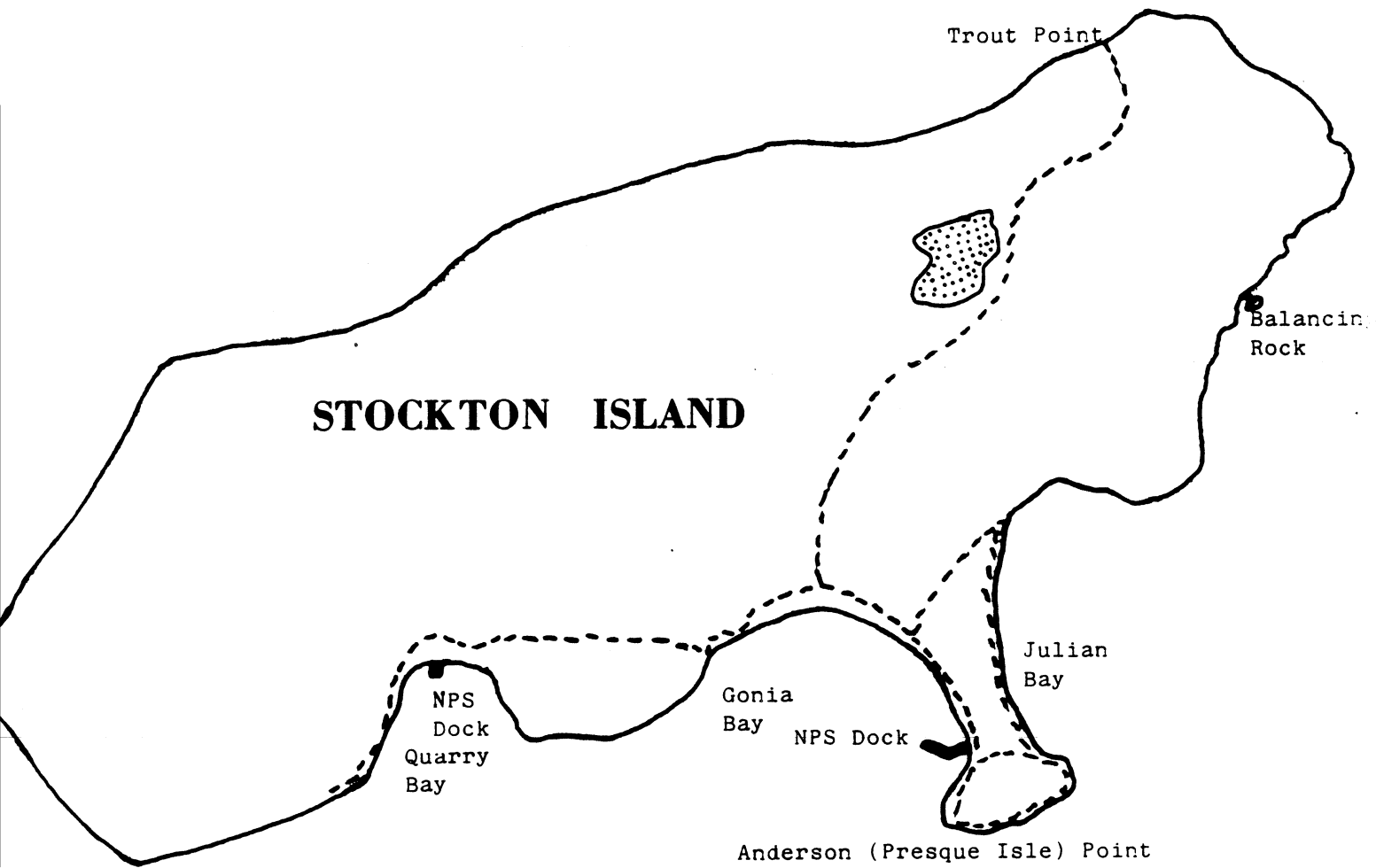
Purpose To describe how the beaver alters flowing island
streams through their damming activities. To show how
beaver activities interfere with and/or complement the
activities of people. To discuss the benefits of their
activity for aquatic life and wildlife.

Rec'mnds Due to the inaccessibility of the beaver ponds on
Stockton Island, I recommend that the beaver's story be
told through personal services featuring Apostle Is-
lands wildlife. An alternative wildlife exhibit des-
cribing wild bear populations would have a stronger
appeal and impact on the island visitor. Numerous wild-
life studies have been undertaken at the Apostle Is-
lands that describe the ecology and needs of the black
bear. This information could be put to use through an
exhibit to educate and manage visitors on how to avoid
adverse encounters with bears. The islands' landmass
is relatively small and as visitation increases on the
islands, human and bear encounters have the potential
to occur more frequently.

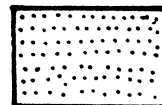
Island Map

Apostle Islands NL
Beaver Flowage
Wayside Exhibit

Exhibit 10



Beaver
Activity



Labels

Apostle Islands NL
Beaver Flowage
Wayside Exhibit Plan

Exhibit 10

Title
10-1

The Best Dam Builder Around

Main
10-2

One rarely finds a creature that is so intent on changing the surrounding environment to suit their needs. Once these changes have occurred, our creature persistently repairs and maintains their altered world. These works are not of people, but of beavers.

At one time the water in these ponds flowed unrestricted through Stockton Island and emptied into Lake Superior. Today, water confining dams built by beavers allows for smooth transport of and accessibility to wood supplies. These aspens, willows, and alders are the beaver's chief food supply and building material for their dams and moated lodges.

The effects of all this dam building raises the groundwater table, resulting in flooded woodlands and agricultural lands. These engineering feats have led to confrontations between beaver and people. The beaver has frequently lost. Often overlooked are the benefits. These newly created "wetlands" provide habitats and feeding areas for fish and wildlife, while conserving soil and water for human use.

Graphics

Apostle Islands NL
Beaver Flowage
Wayside Exhibit Plan

Exhibit 10

Art
10-3

To show a bi-level view of a generic beaver pond and how the pond benefits aquatic life and wildlife. To illustrate how beavers are able to alter this environment and how they act as stewards by maintaining appropriate water levels in their ponds. Based on a conceptual image designed by the author and through photographs found in several of the referenced articles.

References

- Bartlett, D. and J. 1974. Nature's aquatic engineers. Nat'l Geo May, p.726-735.
- Beidleman, R.G. The american beaver. Thorn ecological research station, Bull. #7, Boulder, CO.
- D'aulaire, E. and O. 1973. The beaver is back! Nat'l Wild June/July, p. 9-13.
- Dugmore, A. 1914. The romance of the beavers. J.B. Lippincott Co., Philadelphia.
- Hand, D. 1984. The beaver's tale: out of the woods and into hot water. Smithsonian Nov., p. 162-170.
- Knauth, P. 1972. The north woods. The American wilderness/Time-life books, New York, p. 26-32.
- LaBastille, A. 1979. The beaver is . . . the best dam builder around. Nat'l Wild Apr/May p. 27-33.
- Tanner, O. 1977. Beavers and other pond dwellers. Time-life films.
- Wallace, D.R. 1982. The mind of the beaver. Country Journal Sept., p. 40-47.

Content

Apostle Islands NL
Stockton Island Bog
Wayside Exhibit Plan

Exhibit 11

Subject Ecology of the bog on Stockton Island

Location At the edge of the coniferous forest and the bog. The exhibit will be located on the south side of the trail under the large red pine at the edge. The exhibit will be carefully located to preserve the splendid view of the bog.

View Directly to the west the visitor will notice the bog, an area with no trees. Across the bog, the visitor will see the dune line of Julian Bay Beach. In lower areas of the dune line, waves of Lake Superior can be seen.

Orient'n 165 SE

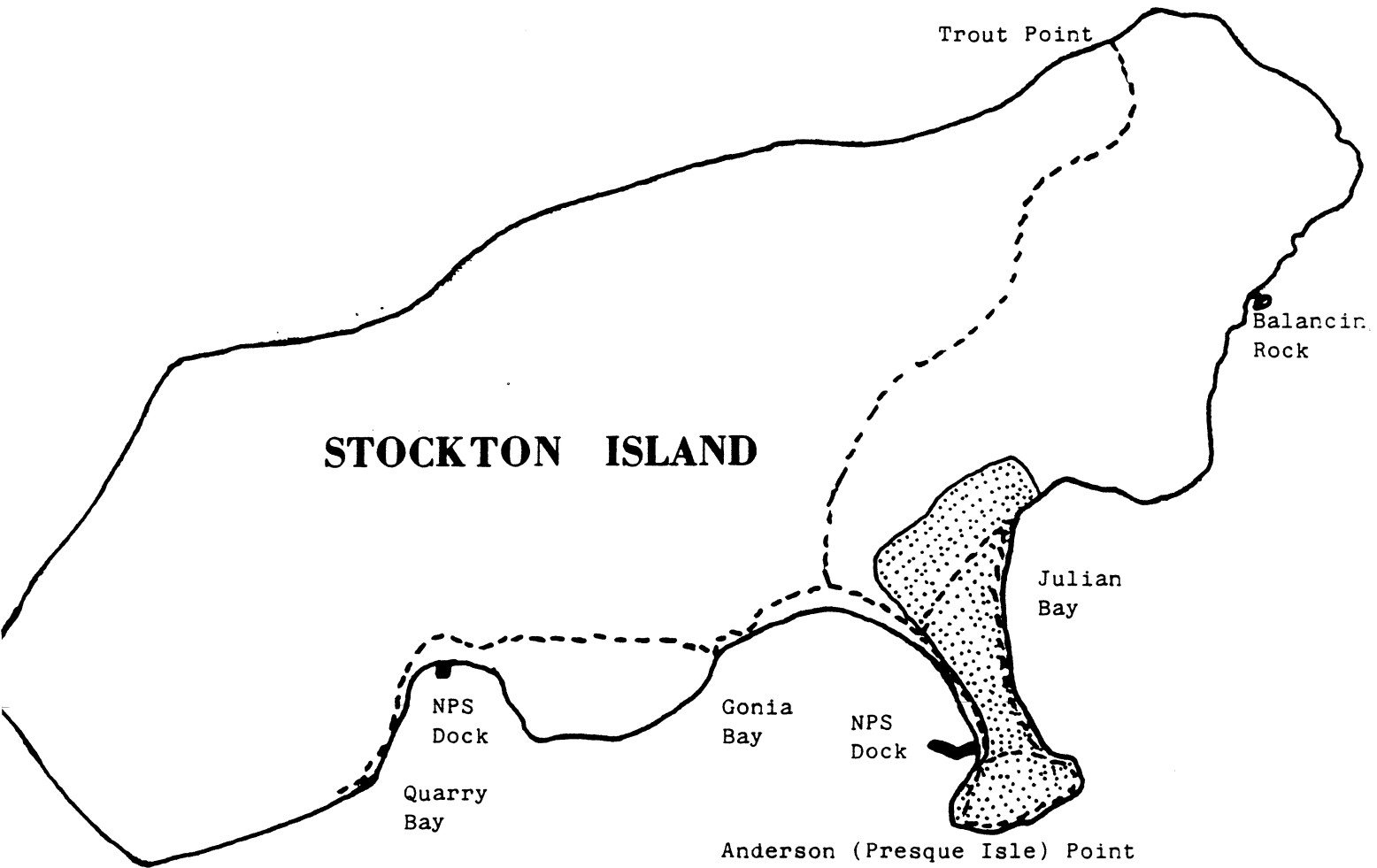
Purpose To illustrate to visitors the fragile world of an acid bog. To describe plant adaptations and why these plants are able to live here while no others can. Finally, to show how looking at pollen records preserved in bogs we can look to past climates and predict future ones.

Rec'mnds It is important to remember that the feature can stand on its own and that the exhibit should be subtly placed in a way that will strengthen, not weaken the bogs charm.

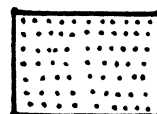
Island Map

Apostle Islands NL
Bog Overlook
Wayside Exhibit Plan

Exhibit 11



Ancient Bog



Labels

Apostle Islands NL
Stockton Island Bog
Wayside Exhibit Plan

Exhibit 11

Title
11-1

Captured Time in an Acid World

Main
11-2

You are about to enter the mysterious world of a quaking bog. Here you will find bizarre meat-eating plants, extraordinary ladyslipper orchids and floating mats of sphagnum moss.

For hundreds of years, decaying sphagnum moss has acidified these waters, making conditions intolerable for most plants and animals. There are no earthworms turning the soil, no bacteria breaking down and recycling plant and animal remains. These remains, called peat, have preserved and captured for our knowledge the last several thousand years of activity at this bog.

Today, a quiet struggle continues between land and water. Perhaps in time, the mats of sphagnum moss will cease to quake, preparing the way for a new forest or meadow.

Subheading
11-3

Carnivorous Plants

Subtext
11-4

Since the soil lacks the proper nutrients, pitcher plants and sundews secure the nourishment they need by entrapping and absorbing body fluids from insects.

Apostle Islands NL
Stockton Island Bog
Wayside Exhibit Plan

Exhibit 11

Subheading
11-5

Pollen Record

Subtext
11-6

Close study of preserved pollen grains has revealed records of earlier climates. Recent records hint at cooler temperatures, indicated by a slight increase in pollen of boreal trees. Are we approaching another Ice Age?

Graphics

Apostle Islands NL
Stockton Island Bog
Wayside Exhibit Plan

Exhibit 11

Art
11-7

A pen and ink drawing that illustrates key components of a bog community. Black spruce and tamarack are on the edge, sphagnum moss mats supporting heaths, orchids and other bog plants are around the open water. Based on a composite of photographs taken by the author during a site visit. The exhibit is graphically laid-out to attract the visitor to discover the world of a bog.

References

- Bengston, Bennie June/July 1976. "The pink or stemless ladyslipper." Water, Woods, and Wildlife. pp. 20-1.
- Daniel, Glenda and Jerry Sullivan 1981. A Sierra Club's Naturalist Guide - The Northwoods of Michigan, Wisconsin, and Minnesota. Sierra Club Books San Francisco, CA.
- Hodge, Walter Henricks Sept., 1981. "Where A Heavy Body Is Likely To Sink." Audubon.
- Knauth, Percy 1972. The Northwoods - The American Wilderness Time-Life Books. Time Inc., New York, NY.
- Larsen, James A. 1982. Ecology of the Northern Lowland Bogs and Conifer Forests. Academic Press, Inc., New York, NY.
- Peterson, Erica 1985. Notes from a seasonal naturalist on bog communities.
- Swain, Albert M. and Marjorie Winkler, Summer 1983. "Forest and disturbance history at the Apostle Islands." Park Science - A resource Management bulletin Vol. 3, no. 4.
- Swain, Albert M. July 23, 1985. Personal communication with research ecologist for Apostle Islands National Lakeshore.
- Watts, May Theilgaard 1957. Reading the Landscape of America. - Chapter 5 "History Book with Flexible Cover or the records in a quaking bog." Macmillan Publishing Co., NY.

Content

Apostle Islands NL
Stockton Island Quarry
Wayside Exhibit Plan

Exhibit 12

Subject History of Stockton Island Quarry

Location Proceed east 30-35 feet on the trail from the existing exhibit. A small NPS hiking sign should be placed here and oriented to 155 S. A small two step ladder should be used to safely get visitors down to the first tier of the quarry. Once down, visitor will be directed to a lower tier and the interpretive exhibit (See Map). A safety barrier similar to the existing barrier should be placed at the new overlook.

View From the overlook visitors will be able to see the bottom of the quarry. By bringing the visitor down into the quarry, he or she will better understand and appreciate the significance of the area.

Orient'n 120 ESE

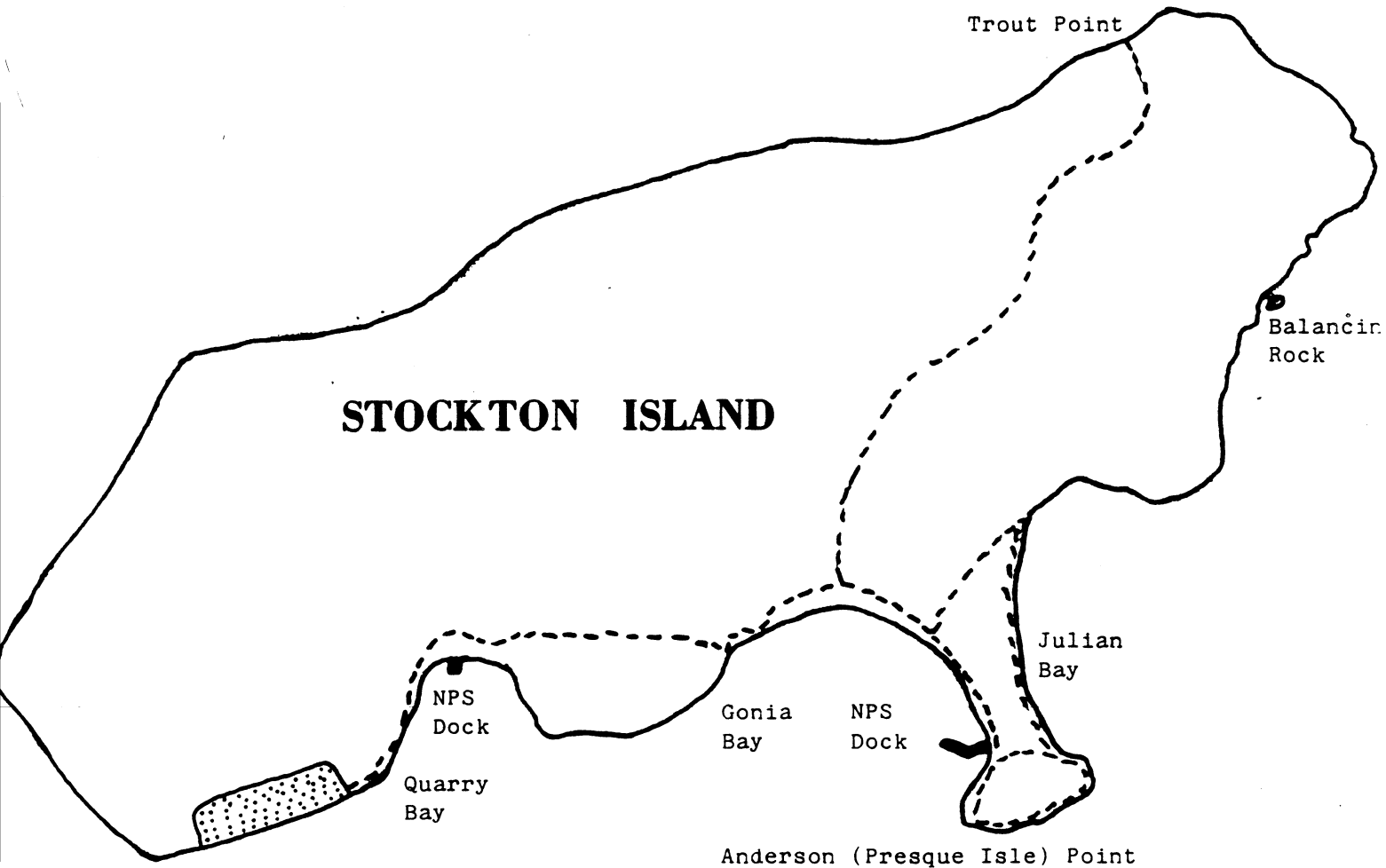
Purpose To illustrate the short-lived history of "brownstoning" to the local economy. To show how island quarry operations aided in the building of several midwestern cities.

Rec'mnds Replace the existing exhibit and allow the visitor to have a better view of the quarry by placing the exhibit at the above recommended location. Presently no view exists from the old exhibit site.

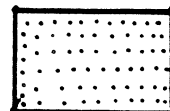
Island Map

Apostle Islands NL
Stockton Is. Quarry
Wayside Exhibit Plan

Exhibit 12



Abandoned
Quarry



Labels

Apostle Islands NL
Stockton Island Quarry
Wayside Exhibit Plan

Exhibit 12

Title
12-1

"Brownstoning at the Apostle Islands"

Main
12-2

This was one of the last island quarries. It began operation in 1886, and soon became the greatest producer of stone in the area. These deep scars and wounds are the only monument to the late 19th century building boom.

"Brownstone" was named for its chocolate brown color and became a preferred building material, replacing wood and brick. Stone yards in Chicago and Milwaukee were common customers of island quarries. City leaders used "brownstone" to establish a sense of stability, pride, and success within their cities.

Bayfield, Washburn, and Ashland thrived on the growing appeal for "brownstone". One confident resident noted - "There is enough brownstone to load four trains a day for four thousand years." It was not to be so. Architectural tastes changed by switching over to lighter-colored rock, concrete, and steel. By the turn of the century, "brownstoning" at the Apostle Islands was a thing of the past.

Graphics

Apostle Islands NL
Stockton Island Quarry
Wayside Exhibit Plan

Exhibit 12

Art
12-3

A revealing graphic that illustrates how stone was hoisted from the main quarry pit. The graphic helps to bring alive the now abandoned quarry and inform visitors of the extent of quarrying at this site. Based on photographs taken by the author during a site visit and a slide entitled - Old Pike's Quarry - H-1415.

References

- Bayfield Press, March 21, 1885. Vol. 11, no. 22.
- Bayfield Press, May 1, 1886. Vol.12, no. 28.
- Buckley, Ernest Robertson 1896. On the building and ornamental stones of Wisconsin. Wisconsin Geological Survey, Bull. 10, Madison, WI.
- Eckert, Kathryn Bishop 1985. The sandstone quarries of the Apostle Islands. Midwest Regional Office - NPS, Omaha, NB.
- Huber, Robert W. Autumn, 1979. "Chequamegon's red-brown treasure." Wisconsin Trails. pp.37-9.
- Lidfors, Kathleen 1983. Sandstone quarries of the Apostle Islands - A resource management plan. Midwest Regional Office - NPS, Omaha, NB.

Content

Apostle Islands NL
Trout Point Lumber Camp
Wayside Exhibit Plan

Exhibit 13

Subject Historical overview of the Trout Point Lumber Camp on Stockton Island

Location Due to primitive conditions of the logging camp site,
View specific location of the exhibit is not recommended.
Orient'n

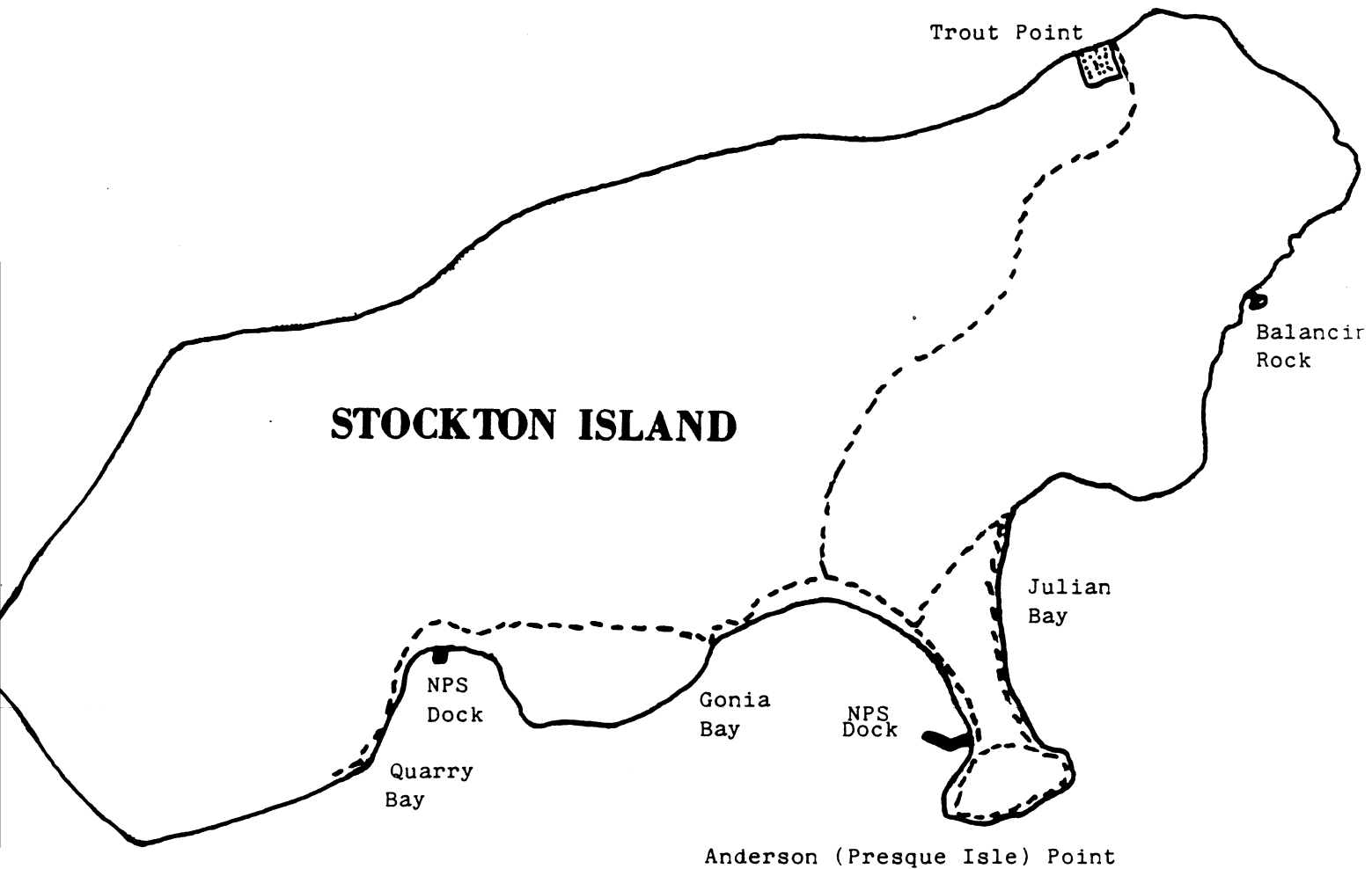
Purpose To illustrate how the natural forest of pine has been replaced with a second-growth forest of hardwoods, from 19th and 20th century logging practices. To describe the isolated lifestyle of the lumberjack at the Trout Point winter logging operation. Further, to describe the daily hardships encountered by the loggers.

Rec'mnds The Trout Point Lumber Camp has been given top priority for interpretive services. However, the location of the camp is in the NE corner of Stockton Island and receives less than a dozen visitors a year. For this reason, I recommend that an alternate logging site be considered for a wayside exhibit. The site should provide easy access for the island visitor and receive high visitation during the summer months.

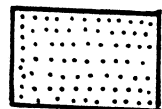
Island Map

Apostle Islands NL
Trout Point Lumber Camp
Wayside Exhibit Plan

Exhibit 13



Trout Point
Lumber Camp



Labels

Apostle Islands NL
Trout Point Lumber Camp
Wayside Exhibit Plan

Exhibit 13

Title
13-1

When Island Trees Came Crashing Down

Main
13-2

You have just hiked through a young forest, one that has replaced a once tall and dominant pine and hardwood forest. These trees were cut down during several winters in the early 20th century, by the men once living here at Trout Point. The camp was abandoned in the 20's after timber resources had been exhausted.

Housing over 100 lumberjacks, the camp functioned as a place to feed hungry men, rest weary bodies, and store and repair equipment. The work week was six days, and each day began hours before sunrise with the muffled cry of the cook - "Daylight in the swamp, roll-out your dead bodies."

After breakfast, loggers and their teams of horses headed for the woods. Working in waist deep snow and brutally cold weather, these resilient men worked into the evening until they could no longer see. All for a \$1 a day.

Graphics

Apostle Islands NL
Trout Point Lumber Camp
Wayside Exhibit Plan

Exhibit 13

Art
13-3

A representational illustration that reveals the rustic lifestyle of a late 19th century logging camp site. The harshness of the season, the crude tools and lodging illustrated help to illuminate the challenge of cutting, bucking, and hauling of logs to market. Based from an archaeological map of the Trout Point Lumber Camp in An archaeological evaluation of the Trout Point Lumber Camp (p. 31) by Jeff Richner. Illustrations of men based on photographs of northern Wisconsin 19th and 20th century logging camps in The Wisconsin logging book 1839-1939 (p. 98-105) by Malcolm Rosholt.

References

- Ashland Daily Press 1905. John A. Schroeder Lumber Company. Sept.
- Frie, R.F. 1951. Empire in pine:the story of lumbering in Wisconsin 1830-1900. State Historical Society, Madison.
- Lidfors, K. 1983. Historic logging sites in the Apostle Islands National Lakeshore: A resource management plan. On file at the Apostle Islands.
- _____, 1984. Historic logging sites in the Apostle Islands National Lakeshore: Footnotes to a forest's history. On file at the Apostle Islands.
- McCoy, S., J. Dean and M. Dewey 1978. Yarns of Wisconsin. Wisconsin Trails, Madison.
- Nelligan, T.E. 1969. A white pine empire; the life of a lumberman. North Star Press, St. Cloud.
- Rector, W.G. 1953. Log transportation in the lake states lumber industry 1840-1918. A.H. Clark Co., New York.
- Richner, J.J. 1984. An archaeological evaluation of the Trout Point Logging Camp. On file at the Apostle Islands.
- Rosholt, M. 1980. The Wisconsin logging book 1839-1939. Palmer Publ. Inc., Rosholt.
- Twining, C. 1983. The Apostle Islands and the lumbering frontier. Wisconsin Mag. of Hist. 66(3):205-226.

Appendix A - Apostle Islands Mission Statement

APOSTLE ISLANDS NATIONAL LAKESHORE
MISSION/FUNCTION STATEMENTS

OFFICE OF THE SUPERINTENDENT

Provides a full range of managerial and supervisory responsibilities which include policy, direction, park planning; work evaluation; setting equal opportunity goals and objectives; establishing priorities; initiating and reviewing budgets; and, employee development.

ADMINISTRATIVE DIVISION

The Administrative Division performs support services including personnel; procurement of necessary supplies and materials needed to operate and maintain park property; management of government property; budget and fiscal responsibilities.

INTERPRETIVE DIVISION

The purpose of the Interpretive Division is to assist visitors in their safe and appropriate use of the Lakeshore and surrounding region through adequate orientation and information; and to explain the significance of the natural, cultural, recreational and historical aspects of the area as they have related and continue to relate to human use. These two tasks are met through a variety of personal services such as, conducted hikes, evening programs, visitor center desk information; and non-personal services like trail guides, interpretive exhibits, and audio visual programs.

MAINTENANCE DIVISION

The Maintenance Division is responsible for maintenance, repair, operation, rehabilitation of all physical facilities, grounds, roads and trails throughout the Park. Oversees the construction projects.

RESOURCE MANAGEMENT AND VISITOR PROTECTION DIVISION

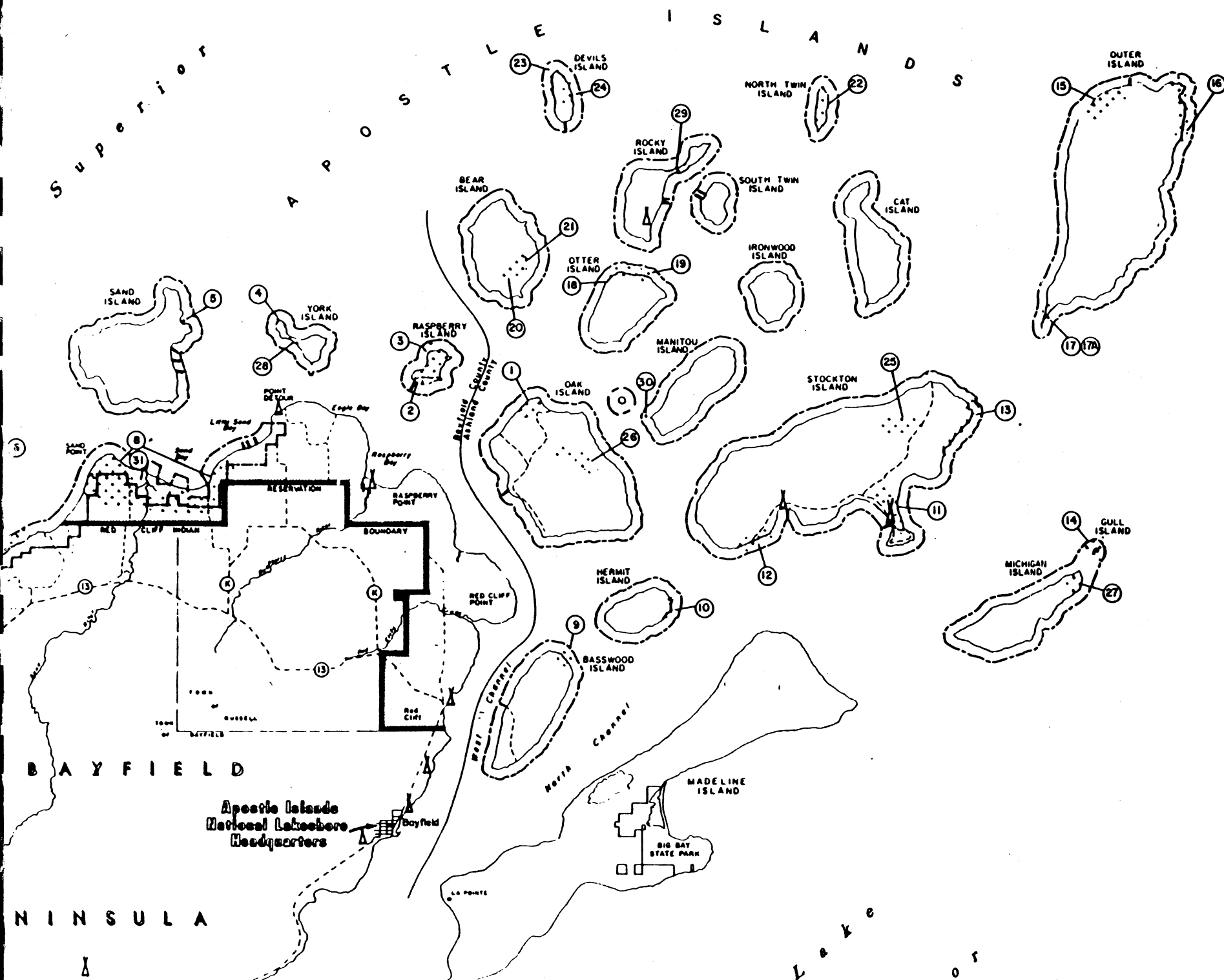
The Resource Management and Visitor Protection Division is responsible for law enforcement, visitor protection (search and rescue), resource protection, visitor use statistics, concession operations, safety and resource management such as fire protection, wildlife management, etc.

RESOURCE PLANNING AND RESEARCH DIVISION

The Resource Planning and Research Division is responsible for conducting and coordinating contracted research and monitoring of the natural and cultural resources of the Lakeshore. Upon the completion of the necessary research, division personnel write management action plans for the general resource categories such as wildlife, forest vegetation, aquatic resources, land forms, fire, historic island activities and historic structures. The Division then monitors the implementation of the completed plans, assesses their effectiveness, and oversees and ensures environmental and National Park Service policy and mandate compliance.

Appendix B - Outstanding Natural and Cultural Resources
of the Lakeshore

INDEX TO OUTSTANDING NATURAL FEAT

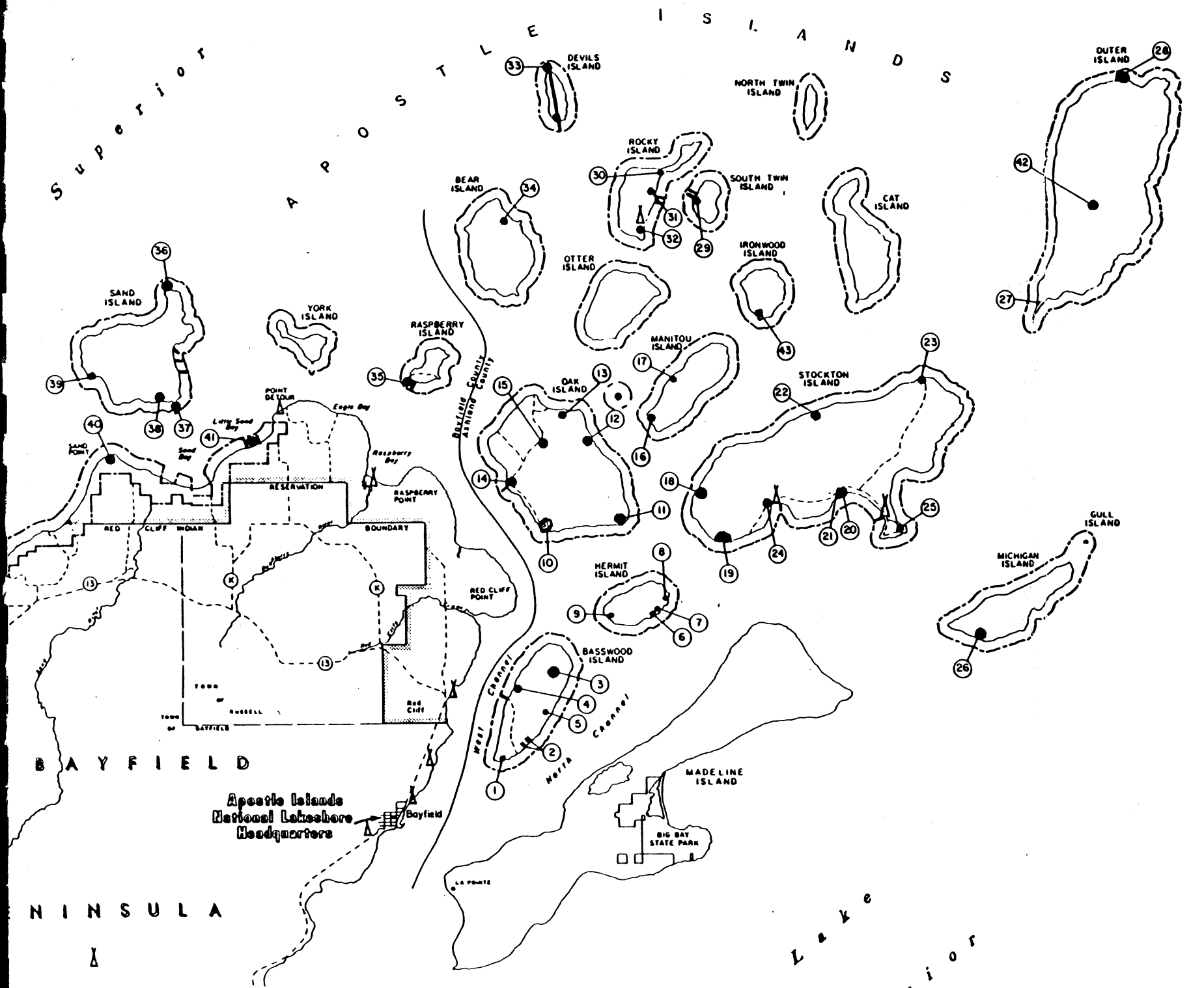


KEY NO	FEATURE
1.	Virgin sugar maple-oak forest
2.	Unlogged forest
3.	Small herring gull colony
4.	Small herring gull colony
5.	Justice Bay sandstone cliffs
6.	Herring gull-great blue heron colonies
7.	Sandstone cliffs
8.	Deer yards
9.	Small gull colony
10.	Gull colony
11.	Classic "tombolo"
12.	Gull colony
13.	Sandstone cliffs
14.	Gull and double-crested cormorant colonies
15.	Large stand of virgin hemlock
16.	Sandstone cliffs
17.	Shorebird habitat
17A.	South sandspit
18.	Large gull colony
19.	Rich stands of sandstone cliff-plants
20.	Ancient upland bog and beaches
21.	Virgin hemlock
22.	Nearly unlogged forest
23.	Gull nests; stands of sandstone cliff-plants; high sculptur
24.	200-300 year old white pine
25.	Ancient bogs and beaches
26.	Ancient beach
27.	Old growth, but small hemlock; great blue heron rookery
28.	Tombolo
29.	Tombolo
30.	Small herring gull colony
31.	Slough

* METERS EXPRESS LINEAR MEASUREMENT OF SHORELINE; INVOLVED HAVE NOT BEEN DETERMINED.

LEGEND

---	NPS BOUNDARY
•	CAMPGROUND
- - -	IMPROVED TRAILS (DOES NOT INDICATE A



KEY NO.	FEATURE	ACRES
1.	Brownstone Ca Quarry *	15.00
2.	Brownstone quarry	5.00
3.	Farm	33.00
4.	Farm	305.00
5.	Farm	7.60
6.	Brownstone quarry	5.00
7.	Cedar Bark Lodge site	0.00
8.	Farm	15.00
9.	Hermit Wilson's home site	0.00
10.	Benjamin Armstrong cabin & clearing site	5.00
11.	Schroeder Lumber Co camp	13.60
12.	Schroeder Lumber Co camp	9.00
13.	Schroeder Lumber Co camp	18.00
14.	Schroeder Lumber Co camp	18.00
15.	Sugar Camp	34.50
16.	Manitou Island Fish Camp	0.50
17.	Logging camp	9.00
18.	Logging camp	10.00
19.	Brownstone quarry	5.00
20.	Logging camp	17.50
21.	Fish camp	0.50
22.	Logging camp	12.50
23.	Logging camp	7.50
24.	Fish camp; site of 1850 structure	1.00
25.	Early structure	0.50
26.	Light station*	13.60
27.	Early structure	0.00
28.	Light station*	13.60
29.	Trollers Home Resort	5.00
30.	Hadland Bros. Fish Camp *	2.50
31.	Early lumber paymaster's office	2.50
32.	Nies Fish Camp	2.00
33.	Light station*	10.00
34.	Logging camp	5.00
35.	Light station*	7.50
36.	Light station*	2.50
37.	Shaw Farm *	(22.50)
38.	Sevona Cabin *	(0.50)
39.	West Bay Club Building	(2.50)
40.	1850's Survey Tower site	0.10
41.	Hokenson Fishery (Dock) *	2.00
42.	Logging camp	
43.	Logging camp	

* NATIONAL REGISTER PROPERTIES
 (PROPERTY UNDER RIGHT OF USE AND OCCUPANCY)

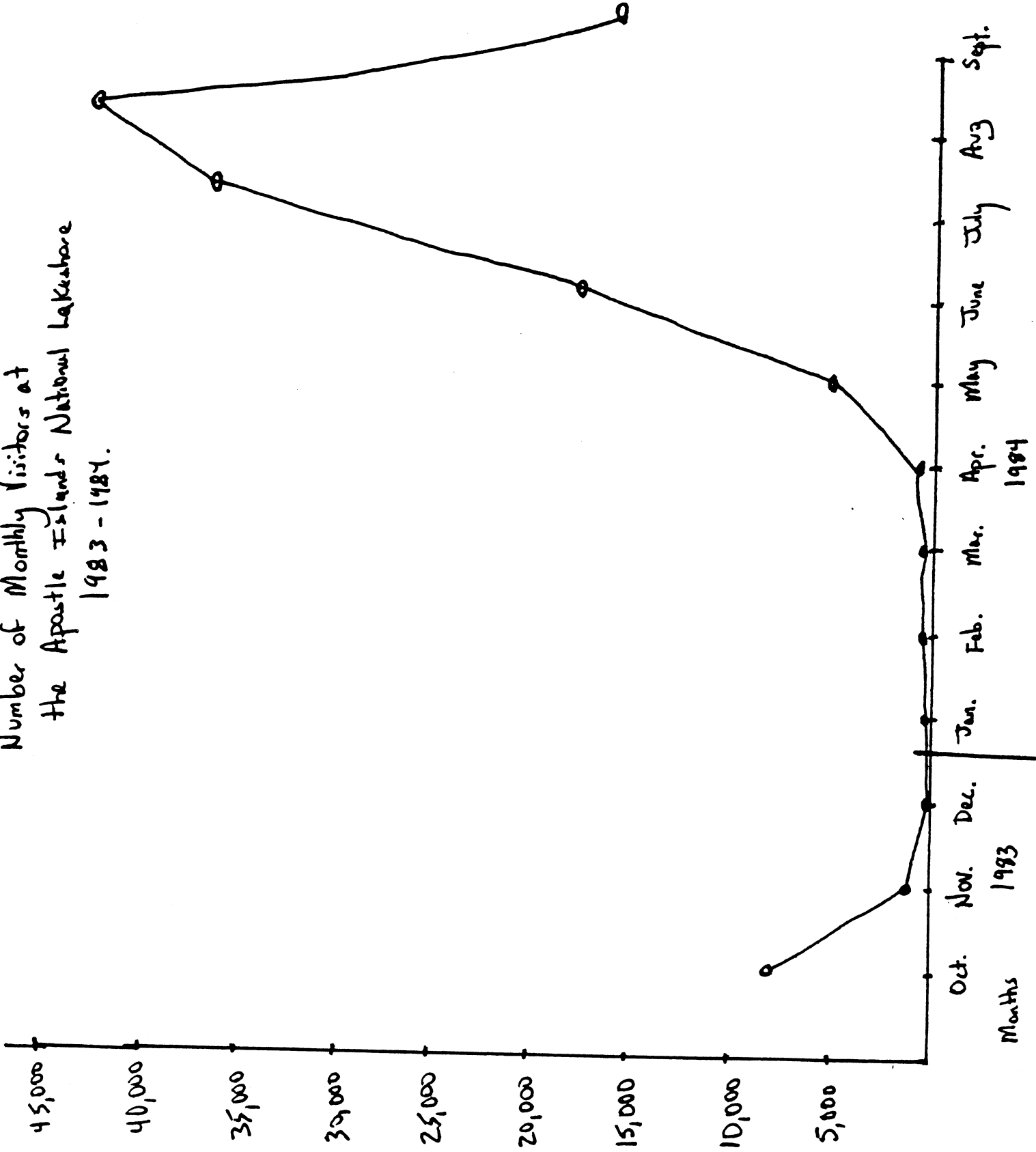
LEGEND

- NPS BOUNDARY
- ▲ CAMPGROUND
- - - IMPROVED TRAILS (DOES NOT INDICATE ALL TRAILS AND ROUTES OF 1981 TRAIL CONSTRUCTION)

Appendix C - Visitor Use for 1983-84 Season

Appendix Q

Number of Monthly Visitors at
the Apostle Islands National Lakeshore
1983 - 1984.



Appendix D - Visitor Analysis Format

INTERPRETATION & VISITOR SERVICES

NPS-6

Some of the following categories are overlapping, however, by making these types of visitation and use analysis. You will gain a clearer understanding of your area's visitors and what they are currently using your area for. By continuing to update this information, you will also be able to recognize and adapt to changing trends and use patterns.

A. Visitation analysis by selected categories of users:

1. Breakdown by age:

_____ % children	0-12 years
_____ % teenagers	13-17 years
_____ % adults	18-61 years (legal age = 18 years old)
_____ % senior citizens	62+ (age for golden age passport)

(Note - % should show percentage of the total park visitation)

2. Breakdown by Group Affiliation:

_____ % alone	Non-associated individuals
_____ % peer groups	People of approximately the same age
_____ % organized/tour	People traveling together for an experience, i.e., school group, organized package tour; club, etc.
_____ % nuclear family	Two parents and their children
_____ % extended family	Nuclear family plus other who are related by blood, i.e., grandparents, etc.
_____ % multiple family	More than one nuclear family, not necessarily related by blood
_____ % partial family	Families with one parent absent
_____ % other	Unknown composition

3. Breakdown by Special Population Membership:

Note: Children and senior citizens are included in this category, but you already have this data from the age breakdown.

_____ % Handicapped (physical, sensory, mental)
_____ % Non-English speaking

INTERPRETATION & VISITOR SERVICES

NPS-6

_____ % **Minority**

To the best of your ability identify the specific composition of each category, i.e., type of handicaps; language spoken, ethnic or racial group.

Information on user types is useful in estimating needed services and activities. Each category develops a distinct adaptive strategy for dealing with leisure time and outdoor recreation experiences. Meaningful and needed interpretation and visitor services offerings can be projected if the composition of the potential audiences is better known. Information on special groups can aid in projecting park needs and services that are inherent to special groups. It is very likely that the services and activities you are now offering are attractive mainly to the social groups who traditionally have used these services. By looking at your entire potential audience you can design programs to serve a larger segment of your area's visitors.

B. Visitation analysis by origin - destination pattern:

1. Breakdown by point of origin:

- _____ % **local residents:** people that live in the immediate area of the park. They often have a personal and frequently financial interest in what's happening.
- _____ % **regional residents:** people that live within a 2 1/2 hour drive of the park. They can, if they wish, visit the park and return home on the same day.
- _____ % **national:** U.S. citizens or residents residing outside the local or regional area.
- _____ % **international:** visitors from other countries.

2. Breakdown of destination/duration of stay:

- _____ % **home based day users:** people who have left their home that day, visited the park, and plan to return home that night.
- _____ % **through-visitors:** people who are on an extended trip, and who are passing through the park as one stop on their itinerary, with the intention of spending only a portion of a day or a single overnight in the area.
 - _____ % **day use only**
 - _____ % **overnight visitors**
- _____ % **extended users:** people who are in your park as a main or only destination for their trip and who will remain in the area two or more nights.

This information on the total duration of visits, the percentages of your total visitation that is regional or local, the percentages of repeat vs. one time users, etc., provides indication of the kinds, the frequency of repetition, and the content (orientation needed vs. in-depth interpretation or skill development programs, etc.) of programs best offered.

C. Visitation analysis by site and activity selection.

1. Breakdown by area and facilities used:

 % Incidental to park's primary resources

- . utilize sites and participate in activities that involve a high degree of modern developed facilities and opportunities.
- . seek modern, human designed environments with wide selection of facilities for comfort and convenience, natural or cultural environment is only a background.
- . require a strong feeling of safety and security and easy opportunity to be gregarious.
- . a learning level of activity skills or knowledge is sufficient.

 % Based on park's primary resources

- . desire only a moderate degree of modern human developed facilities and opportunities.
- . prefer areas where basic natural or cultural environment dominates with some modification for comfort or convenience.
- . a basic sense of security balanced with some opportunity for adventure is desired.
- . opportunity to socialize about equal in importance to solitude.
- . a moderate level of activity skills or knowledge is needed.

 % Dependent on park's primary resources

- . desire very little or no human developed facilities or opportunities for activities associated with them.
- . prefer areas where natural or cultural environment is unaltered except indirectly for necessary public safety and resource protection.
- . availability of facilities for comfort and convenience unimportant.
- . opportunities for solitude, physical or mental achievement, challenge, etc., dominates over opportunity to socialize.

INTERPRETATION & VISITOR SERVICES
NPS-6

. a high level of activity skills or knowledge is required.

2. Breakdown by I&VS program use:

- ____% use information - orientation and/or nonpersonal services only.
- ____% attend personally conducted or presented activities
- ____% non-program users

These categories provide information on the attractiveness of different sites and activities at your area. They can aid in locating service points, assigning personnel, selecting topics for programs or presentations, projecting distribution of users by area and activity, and recognizing need for communications and structuring (by facilities and programs) by which uses most appropriate to the area's purpose and distinctive qualities are given preference.

D. Area use patterns:

1. Total park visitation annual and by month

Use figure for most recent year. If any major change is anticipated - explain.

2. Seasonal use variations.

- ____% summer
- ____% fall
- ____% winter
- ____% spring

For each season summarize the visitation by categories of users present; their origin/destination patterns; activities and site selections; major recreational or educational use of the area; etc.

Note: - any pronounced daily, weekly, etc., arrival and departure patterns

- maximum and/or minimum use periods or days
- special periods devoted to specific activities, etc.

EVALUATION TECHNIQUES

<u>Technique</u>	<u>Pros and Cons</u>
Mechanical Measures ----	Recording quizboard devices and interactive computers can be used to record right and wrong answers to questions concerning a visitor center's exhibits. The proportion of right to wrong answers can tell you how well certain exhibits are communicating factual material to visitors. While the information collected can be highly useful, the quizboards and interactive computers are costly to develop and maintain.
Questionnaires -----	One of the most common evaluation techniques, the questionnaire, has also been the most over-used. To be valid, the questions must be carefully constructed and pre-tested by professionals in survey research or marketing. They must also be administered according to a properly designed sampling schedule in order to be confident of the representativeness of the results. This is particularly true when important policy or management decisions are to be made on the basis of the questionnaire results.
Interviews -----	Formal interviews require a carefully designed and pre-tested set of questions, administered according to a properly designed sampling schedule. A value of the interview technique is that the interviewer can establish a rapport with the visitor and can draw out answers that can be more accurate than those of a questionnaire. Any uncertainty in what a question means can be cleared up on the spot by the interviewer. Visitors are likely to be more careful in their answers when the personal relationship of interviewer to visitor has been established.
Conversations -----	Well-structured, informal conversations can be tremendously valuable in gaining information on the effectiveness of interpretive programming. During the course of public contact, questions regarding visitor reaction can be asked and noted. It is important to ask such questions casually, thereby increasing the chances of an accurate answer from the visitor. While this method does not produce data that is statistically defensible, it can provide valuable information regarding trends in

Evaluation Techniques

(continued)

<u>Technique</u>	<u>Pros and Cons</u>
Conversations ----- (continued)	visitor reaction. We emphasize the importance of asking the same questions of different audience members, thus providing you with good coverage of individual reactions. A distinct advantage of this technique is the ease with which it can be done. We emphasize also the necessity of keeping accurate notes of visitor comments, the situation under which the comment occurred, and a few words describing the audience member with whom you talked.
Checklists -----	Checklists can be developed wherein you set up the criteria that a particular interpretive programming medium should meet, and then periodically evaluate the programming on that checklist. A great deal depends on the quality of the initial checklist you develop. Forming the checklist on the basis of your established evaluative objectives will greatly strengthen this approach. A disadvantage of the checklist approach lies in the subjective nature of the evaluation made. It is important that the staff person evaluating via the checklist have a thorough understanding of the objectives being evaluated.
Auditing -----	Auditing is a term which refers to an expert individual applying a listing of criteria in evaluating an interpretive programming medium. The expert may come from the City staff, but there is also great value in drawing this person from outside the City government. A respected local authority, for example, might audit a series of interpretive tours or demonstrations. Results are then shared with the individual who planned the events in a positive and constructive atmosphere. As with checklists, the criteria for audit are drawn from the programming objectives, and periodic auditing is highly desirable. A variation on this approach is to have the same audit criteria used by several auditors at the same time, thus minimizing any variations in judgment caused by personal differences in style.

Evaluation Techniques

(continued)

<u>Technique</u>	<u>Pros and Cons</u>
Observation -----	One of the easiest techniques to use, observation can also be misleading, unless used in concert with another evaluative technique. If one systematically observes that an exhibit continually draws lengthy attention from visitors, it might be assumed that the exhibit is effective and that the message is getting across. If, however, informal conversations are also conducted with visitors relative to that exhibit, it might be found that the reason people are taking so long in viewing it is that it is particularly confusing, and that the visitor has to spend a great deal of time trying to figure out the point of the exhibit. In this case, the exhibit may be a total failure in communicating a factual or attitude change message effectively--which may have been the evaluative objective of the exhibit.
Records -----	Records of attendance and use levels at interpretive programming events and facilities can be very helpful in evaluating certain dimensions of effectiveness and efficiency. A great degree of their usefulness will depend on the accuracy of the records. There is often a tendency to inflate records to show high use (This is often assumed to be a measure of effectiveness.), but accurate records will be far more beneficial in the long run. Records should be kept as specifically as possible, with individual interpretive media separated. Any use of records as evaluative tools should be coupled with at least one other measure of effectiveness--possibly checklists or conversations.

Appendix F - Basics of Interpretive Signage

BASICS OF INTERPRETIVE SIGNAGE

Prepared By:

Graphic Solutions
P. O. Box 1288
Hagerstown, Maryland
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I. INTRODUCTION:

The field of interpretation is undergoing a very definite transition in techniques and methodologies. There is no such person as the typical park visitor. They vary widely in knowledge of the park, its purposes and their reasons for coming to the park. Some arrive to picnic, others to photograph, still others come to obtain a more detailed knowledge of the historical, natural, or cultural resource that mandated developing the park.

Our goal as interpreters is to provide a balanced program of interpretation to this diverse clientele. The personal methods of interpreting our facilities are still important. However, as budgets are further strained and the time demands placed on your limited staff increase, the permanent interpretive signage system will become a more significant part of your overall program.

This guide is designed to give you a few tips from a professional designer to aid in conceptualizing and specifying your system. Finally it will provide a rough guide to budgeting money for the system.

Any comments or suggestions concerning this guide are welcome.

II. DESIGN CONSIDERATIONS:

Design is a very personal thing. What one person likes does not necessarily please the next. However, there are some basic elements of design which hold true in most circumstances. Following these guidelines will enhance your exhibits and increase the likelihood that you visitor will take the time to read your panels.

1. - MATERIAL - There are many materials available today which can be used for interpretive signage. These include wood, aluminum, steel, vinyl, Plexiglass, Lexan, Permalloy, metal

photo, and Fiberglass embedments. A detailed discussion of each of these would be outside the realm of this article. We feel that the Fiberglass embedment process offers the best balance between cost, versitility (color, graphic design), maintenance and vandal resistance available in the interpretive field today.

2. - KEEP IT SIMPLE - Most visitors are looking for quick directions, and interpretation of the site. The longer the copy the less likely it will be read. Simple bold headlines and short copy combined with eye apealling graphics is the best bet when it comes to attracting visitor attention.

Don't try to tell more than one aspect or story on each panel. The small additional expense of splitting panels into individual units will more than pay for themselves in visitor use.

For detailed information, guide the visitor to the visitors center or an information cneter where descriptive pamphlets are available.

3. - SIZE - Interpretive panels should be kept to the minimum practical size so that they don't intrude upon the environment. Making a panel too small however severely limits its ability to communicate. Some recommended guidelines are:

Trailhead & Directory 24" X 36" - 36" X 60"

Interpretive & Trailsides 18" X 18" - 24" X 36"

Generally rectangular formats are better than square and horizontal better than vertical layouts. Strive for a layout that carries the eye forward across the exhibit ie an integrated pattern as opposed to many individulaized vignettes.

4. - COLOR - In general earthtones are the rule for park settings. However, don't be afraid of color. Use it to attract the visitor, to distinguish species, to bring an exhibit alive. Maps will typically require 4 - 8 colors to clearly illustrate and convey the necessary information. Interpretive panels can usually get by with 2 - 4 colors plus background.

Each color used will add to the cost so plan for them in advance. If you plan to specify specific colors for a project invest in a Pantone Matching System Book. This way you can speak to your supplier about standardized colors.

5. - MAPS - Here again simplicity is the keyword. Most maps in interpretive settings have far more information than they really need. Maps are very complex graphic representations and usually should be left to a qualified exhibit designer. You should be prepared to tell him exactly what information must be included.

Use pictographs wherever possible for legibility and readability regardless of your visitors native tongue.

6. - ILLUSTRATIONS VS. PHOTOGRAPHS - This is another area that should really be left to the professional designer. Most times there is a very definite reason for choosing one over the other. These factors must be evaluated on an individual basis and relate to message, budget, the available resource material, location and overall design and setting of the panel.

7. - TYPESTYLE - If you decide to specify typestyle for your project be very careful about mixing typestyles. Multiple styles tend to be very confusing and detract from readability.

Usually it is best to stick to something simple such as Helvetica Medium or Optima.

III. BUDGET CONSIDERATIONS

There are three major areas of expense in developing an individual exhibit.

- 1 - Design
- 2 - Mechanical Art Preparation
- 3 - Printing and Embedding

It is a very difficult task to give budget figures with no specific item to quote. However we have found the following figures useful for planning purposes. KEEP IN MIND HOWEVER THAT ACTUAL PRICES MAY VARY CONSIDERABLY DEPENDING ON THE SPECIFICS of your exhibit.

All of these figures are based on the typical exhibit 24" X 36". As the size decreases costs per square foot will increase substantially. However, the reverse may or may not be true, depending on the complexity of the art and amount of copy involved.

Full Design	\$25.00 per color/square foot
Layout & Mechanical Art Preparation	\$25.00 per color/square foot
Printing	\$25.00 per color/square foot
Embedment	\$5.00 - \$6.00 /square foot

Again, keep in mind these figures should be used for planning purposes only. Specific quotes should always be obtained based on the individual requirements of the job.

IV. CONCLUSION:

We hope that this guide will help you to think about, plan and conceptualize your interpretive signage requirements.

Currently under development is a master checklist that will help you put your requirements on paper. Call or write for a free copy.

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