RENEWING THE VISION FOR EDUCATION AND INTERPRETATION AT
THE GEORGE W. MEAD WILDLIFE AREA

by

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Abstract

The Wisconsin Department of Natural Resources has proposed a new headquarters/educational facility at the George W. Mead Wildlife Area (MWA), a 27,653-acre tract dominated by managed wetlands. The primary objective of this research project was to produce a set of recommendations on the design of the proposed facility and the development of educational and interpretive programs at the site. A non-random mail survey was used to reach 129 teachers (grades 5-12) in seven public school districts within a 25-mile radius of the MWA, which is located in central Wisconsin. Ninety teachers (70%) returned surveys, which identified factors that would compel teachers to take students to the MWA. Four focus groups were convened to assess the views and interests of the local community. Twenty individuals, representing eight different conservation organizations, provided opinions on specific issues. In addition, information on historical use of the MWA was obtained, and eight other wildlife areas in Wisconsin, Missouri, and Arkansas were identified as models for developing educational and interpretive services. The results indicate that although a new building containing a classroom and modern restrooms is desirable, most important to teachers is the presence of an on-site educator who can deliver programs that correlate with individual teachers' curriculums. The community supports educational program development and at least some interpretive services, especially some universally accessible facilities such as a wetland boardwalk. Some focus group participants suggested design change to the exterior of the building proposed. Suggested modifications to the interior of the building include increasing office space, adding a kitchen, and providing alternate access to the classroom and restrooms. It is recommended that a team of Wisconsin Department of Natural Resources educators, wildlife managers, and administrators incorporate these findings into a master plan for the George W. Mead Wildlife Area. It is recommended also that the department create a long-term strategic plan for the educational and interpretive use of wildlife areas in Wisconsin.
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Chapter 1

Introduction

Statement of the Problem

The purpose of this research project is to assist the Wisconsin Department of Natural Resources (DNR) in developing an educational and interpretive program at the George W. Mead Wildlife Area (MWA), with specific reference to a new headquarters/education facility proposed for this site.

Sub-problems

1. Assess the current status of educational and interpretive programs at the MWA.
2. Identify other wildlife-based properties (state and federal) having educational and interpretive programs that can be used as models for MWA programs.
3. Identify the target audience for educational programs at the MWA and identify what factors would most compel teachers to use the MWA as a teaching site.
4. Assess the views of the local community toward the proposed development at MWA, including the new building and its associated programs.
5. Produce a set of recommendations on the design of the proposed facility and the development of educational and interpretive programs.
Significance of the Problem

On 7 July 2000, Wisconsin DNR Secretary George Meyer and State Senator Kevin Shibilski (D-Stevens Point) announced an agreement approving funding of a new headquarters and education facility at the George W. Mead Wildlife Area (Schwalbach, 2000). Under this agreement, the DNR would allocate $681,600 for the project, with $75,000 to be raised through private funding efforts.

One would expect a project of this size to be part of a DNR strategic plan for state wildlife areas, but in fact no such plan exists (Salwey, 2001). Further, a review of the Program Statement (Meier et al., 2000) for the building reveals the lack of a clear vision for the use of the new facility. This document does not define clearly the terms it uses, including: *educational facility*, *an area for public education*, and *resource-oriented educational programs*. Conspicuously absent is information on agency/site mission and potential visitor characteristics, including their ages, numbers, expectations, and geographic distribution. There is no succinct goal statement for the educational and interpretive program the building is intended to support, and also missing is any discussion on educational/interpretive staffing.

The central question this research project addresses is: Will the proposed facility provide for the needs and expectations of future users? The data and insights obtained can be applied during the construction phase of the building and during future program development.
Background: George W. Mead Wildlife Area

Located in Marathon, Wood, and Portage Counties, the 27,653-acre George W. Mead Wildlife Area represents one of the largest of Wisconsin’s 215 state wildlife areas (Wisconsin DNR's Public Wildlife Recreation Land, 1998). Since its establishment in 1959, the property has been managed intensively as a waterfowl production area, and hunting and trapping are the two primary human uses of the property (Meier et al., 2000). Other recreational uses include berry picking, biking, bird watching, canoeing, cross-country skiing, dog training, fishing, hiking, snowmobiling, and snowshoeing. A new bicycle loop, 6.8 miles in length, was established on the wildlife area in 1998.

The Mead Wildlife Area features a diversity of natural resources, including forest, grassland, and wetland communities. What the MWA is most known for, however, are its extensive wetlands. Development consists of 35 miles of dikes and ditches that impound more than 4500 acres in 19 major flowage basins (Meier et al., 2000). In addition, approximately 37 small flowages have been constructed. To improve waterfowl breeding potential, more than 600 potholes have been constructed within a large sedge meadow complex (Meier et al., 2000).

A 20-mile system of internal roads and trails provides access for recreational users. These roads are used for foot travel by the public and for vehicular access by property personnel. Fifty-two parking areas are strategically located to provide needed parking for wildlife area users (Meier et al., 2000). Interpretive development consists of five simple, widely separated waysides and a small kiosk adjoining vault toilets near the existing headquarters facility.
The existing headquarters facility was constructed in 1967 (Meier et al., 2000). This 4000 square foot metal structure, placed on a slab and constructed with little insulation, has been a major concern from a building maintenance and energy conservation perspective (Meier et al., 2000). Excessive rodent infestations and violations of OSHA electrical and ventilation codes have generated much concern for renovation or replacement of this structure (Meier et al., 2000). As no other shelter exists, visiting school groups, organizations, and DNR staff often end up in the mechanics shop or pole building for meetings and presentations; this provides a poor setting for public education efforts and raises many safety/health concerns (Meier et al., 2000).

The new headquarters and educational facility will be constructed approximately 350 feet southeast of the existing pole building (Appendix M). The north wing of the facility will be for DNR administrative offices; the south wing will provide public rest rooms, a classroom, and a kiosk. A lobby/main entrance will separate these two wings. The building plan (Meier et al., 2000) includes:

1. Office space for four permanent staff and additional space for limited-term employees, forestry personnel, intern students, and graduate assistants.
2. Break/private meeting room capable of seating up to 15 people.
3. Employee locker/shower room.
4. Mud room.
5. Central storage space for files, computers, copy machine, and mail processing.
6. Reception/public-contact area.
7. Main entrance/lobby.
8. Classroom (84-person capacity).
9. Men's and women's restrooms.
10. Storage room for audio-visual equipment and educational supplies.
11. Outdoor kiosk (75-person capacity) where public users will find drinking water, benches, and after-hours information.

The new facility proposed has drawn praise from environmental educators at the University of Wisconsin, Stevens Point as well as from the former Secretary of the DNR, George Meyer (Schwalbach, 2000). But who is the target audience? Why does the MWA have to have educational and/or interpretive programs? These questions should be answered clearly (Salwey, pers. com., 2000).

Educational use of the MWA peaked during the late 1980s and early 1990s (Meier unpubl. data). Jones (1989) estimated that 1800 students visited the site in 1988. The Stevens Point Area School District sent 15 classes to the MWA in 1991 (Ellingboe, unpubl. data, 2000). Since then, however, educational use has tapered dramatically (Meier, pers. comm.). In 2000, 102 students (K-12), participating in two field trips, visited the site (Table 1-1).

Table 1-1 Comparison of estimated visitor use in 1988 and 2000 of Mead Wildlife Area using data from Jones (1989) and Meier unpubl. data.

<table>
<thead>
<tr>
<th>Type of Use</th>
<th>1988</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hunting</td>
<td>6000</td>
<td>7500</td>
</tr>
<tr>
<td>Non-hunting</td>
<td>3000</td>
<td>4500</td>
</tr>
<tr>
<td>Education</td>
<td>1800</td>
<td>102</td>
</tr>
</tbody>
</table>
Historically, Biology and College of Natural Resources faculty at the University of Wisconsin, Stevens Point (UWSP) used the Mead Wildlife Area for instruction. UWSP wildlife professor Lyle Nauman, for example, took his Wildlife Techniques and Introduction to Wildlife Management classes there on field trips, and he also involved his students in duck banding, deer registration, and waterfowl bag checks (Nauman, pers. com.). Dr. Michael P. Gross, professor of environmental interpretation, involved one of his graduate students, Elizabeth O. Jones, who produced the 1989 *Master Interpretive and Educational Plan for the Mead Wildlife Area*.

The fate of the interpretive and educational program at Mead during the 1990s was shaped largely by events that took place at the Sandhill Wildlife Area, 35 miles to the southwest, near the town of Babcock. At that site, in 1991-1992, the Wisconsin Department of Natural Resources (DNR) invested $150,000 to develop an Outdoor Skills Center. At that time, DNR administrators believed the Sandhill facility would serve the environmental education needs of central Wisconsin schools (Meier, pers. com., 2000).

The Jones' (1989) conceptual plan for the Mead was thus never implemented due to lack of administrative support (Meier, pers. com., 2000); nevertheless, wildlife technicians at the Mead Wildlife Area continued to serve in some capacity toward wildlife education. Budget constraints, however, made this increasingly difficult. One wildlife technician position at the MWA was eliminated in 1993 when Chris Cold transferred to Ladysmith to become a Northern Region Wildlife Educator (Arthur and Geiger, pers. com., 2000). More budget constraints and DNR restructuring between 1995
and 1997 further diminished educational potential at the MWA. Basically, the DNR felt education was not a priority mission of MWA (Meier, pers. com., 2000).

Despite these factors, educational use of the MWA continues. A small number of teachers from nearby public school districts and some UWSP faculty still lead trips there for outdoor and environmental education. The small staff at the MWA tries to accommodate their needs; however, the absence of either a suitable shelter or designated education staff persist as limiting factors.

Limitations

1. The teachers participating in the survey were not a random sample.
2. The community users participating in focus groups were not a random sample.
3. The other wildlife properties identified as models were not a random sample.

Definition of Terms

Central Wisconsin. This includes the communities of Stevens Point, Wausau, Marshfield, Wisconsin Rapids, and others within a 25-mile radius of the George W. Mead Wildlife Area.

Environmental Education (EE). That part of education which focuses on ecologically-related social issues in the environment, toward the development of responsible citizen actions to prevent or resolve those issues (McNeil, 1999).
Headquarters/Education Facility. This is the currently proposed development, with indoor accommodations including reception area/lobby, restrooms, classroom, and kiosk. It would adjoin administrative offices (Meier, et al., 2000).

Interpretation. Through the use of original objects, first-hand experiences, and illustrative media, good interpretation aims to connect meanings of the resource with the interests of a voluntary audience (Tilden, 1957).

Mead Wildlife Area. The George W. Mead Wildlife Area is a public area of 27,653 acres managed by the Wisconsin Department of Natural Resources (DNR) for wildlife and compatible outdoor recreational opportunities.

Wildlife Properties. Refers collectively to areas, such as state wildlife areas, national wildlife refuges, and other properties that are devoted to wildlife and compatible outdoor recreation.

Wildlife Education. The mission of wildlife education is teaching responsible use of our wildlife resource, through knowledge of wildlife, wildlife habitat, wildlife management, hunting, and trapping (Judd, 1991).

Abbreviations

DNR - Wisconsin Department of Natural Resources
EE - Environmental Education
EI - Environmental Interpretation
MWA - George W. Mead Wildlife Area
USFWS - United States Fish and Wildlife Service
UWSP - University of Wisconsin, Stevens Point
WCEE - Wisconsin Center for Environmental Education
Chapter 2
Literature Review

This chapter provides an overview of the scientific and popular literature that relates to the problem statement and the sub-problems of this thesis. No attempt is made to reiterate all the findings of each research area. Instead, this chapter takes an eclectic approach to present the ideas most fundamental to this research project. The sections are organized as follows:

I. Values of Wildlife to Society
II. Values of Wildlife in Environmental Education
III. Environmental Education in Wisconsin, the U.S., and the World
IV. The Influences of Field Instruction
V. Education and Interpretation at the Mead Wildlife Area
VI. Environmental Interpretation
VII. Development of Interpretive/Educational Centers
VIII. Planning and Evaluation Tools
IX. Assessing Needs and Designing Surveys
X. Using Focus Groups
XI. Marketing
Values of Wildlife to Society

For many people, a world without wildlife is unthinkable (Dasmann, 1964). In America, wildlife represents a significant part of our culture (Leopold, 1949):

The culture of primitive peoples is based upon wildlife. Thus the plains Indian not only ate buffalo, but buffalo largely determined his architecture, dress, language, arts, and religion. In civilized peoples the cultural base shifts elsewhere, but the culture nevertheless retains part of its wild roots.

Wildlife has economic value. In Wisconsin, recreation based on fish and wildlife has grown from a quaint pastime into an industry with a six billion dollar annual economic impact (Vander Zouwen, 1998). This estimate of human use of wildlife takes into account both consumptive (hunting) and non-consumptive (watching) uses. But as Judd (1991) cautions, “We must be careful not to measure the value of a given species solely on the basis of human use, since each has intrinsic value in the functioning of the ecosystem.”

Wildlife has great intangible values to society. Wildlife serves as an environmental barometer. If wildlife is in trouble, people probably are too (Baldwin et al., 1993). The worldwide decline in amphibians during the 1990s, for example, should serve as a “wake-up call” to us all (Ryan, 1992).

More than 50 years ago, Leopold pleaded the case for biodiversity as well as anyone has yet: “If the biota, in the course of eons, has built something we like but do not understand, then who but a fool would discard seemingly useless parts? To keep every cog and wheel is the first precaution of intelligent tinkering.” (Leopold, 1953). Carson (1938) said, "Wildlife, it is pointed out, is dwindling because its home is being destroyed. But the home of wildlife is also our home."
Values of Wildlife in Environmental Education

Wildlife education is not a luxury, but a necessity. Everywhere in the world, wildlife problems are making the news and responsible citizens need to have adequate facts and background to help reach decisions (Allen, 1962). Peyton and Decker (1987) argue that communications and education programs of state and federal wildlife management agencies and private wildlife conservation organizations need to increase their efficacy by addressing public values.

Schoenfeld (1978) said, “Whatever the total complement of environmental education, wildlife conservation is a key element – a valuable point of entry, a rich source of illustration, a stimulus to action, and an aspect of the ultimate reason for environmentalism.” Dettmann-Easler and Pease (1999) believe “it is logical to assume if a child has strong positive attitudes toward wildlife, then he or she may also have positive attitudes toward protecting and enhancing wildlife through habitat protection, pollution control, and so forth.”

Many Americans derive their ideas of wildlife from television, textbooks, and cartoons that feature cuddly, anthropomorphized bears, coyotes, and the like (Deloria, 1991 and More, 1977). Such incidental learning opportunities, especially from television, lead to false impressions of animals and natural environments and may contribute to negativistic orientation to wildlands (Bixler, et al., 1994).

In 1983 the Western Association of Fish and Wildlife Agencies and the Western Regional Environmental Education Council launched Project WILD (Wildlife in Learning Design), a supplementary environmental education program designed to develop awareness, knowledge, skills, and commitment concerning wildlife and the
environment. By 1989, the program was utilized in 43 states (Zosel, 1989). As of the year 2000, Project WILD programs were in place in all 50 states plus Canada, the Czech Republic, India, Iceland, Japan, and Sweden (Council for Environmental Education, 2000). Project WILD can be of particular benefit to urban-dwelling students (Gilchrist, 1999).

The term, wildlife education, has changed during the past 70 years. Wildlife education, as a field, was well defined by Aldo Leopold in his 1942 presentation, "The Role of Wildlife in a Liberal Education" (Flader & Callicott, 1991). In that address, Leopold stated that the field of wildlife education was started in the 1930s, and he argued for a broad definition:

The objective is to teach the student to see the land, to understand what he sees, and enjoy what he understands. I say land rather than wildlife, because wildlife cannot be understood without understanding the landscape as a whole. Such teaching could well be called land ecology rather than wildlife, and could serve very broad educational purposes.

In Leopold's day, the context of wildlife education was formal education for wildlife managers, ecologists, biologists, etc. Today, the Wisconsin DNR aims wildlife education efforts at people of all ages and backgrounds. Mary K. Salwey, currently Education Coordinator for the Wisconsin DNR Bureau of Wildlife Management, defines wildlife education as follows (Salwey, pers. comm., 2000):

Wildlife educators focus heavily, if not entirely, on the subject of wildlife, wildlife habitat, wildlife management, and hunting and trapping issues. They generally don't spend time teaching about solid and hazardous waste, energy, recycling, pollution and other environmental problems as environmental educators would. Nor do they present public programs on, say, spring wildflowers, star gazing, or bedrock geology, as visitors may find at a state park. Environmental education is a broader category.
Curriculums for wildlife education have been developed for several wildlife areas in Wisconsin. Judd et al. (1996) produced the *Wildlife Management Field Trip Guide to Horicon Marsh*. Thiel and Denter (1999) developed a similar work for the Sandhill Wildlife Area. Parallel to Leopold's view, Volkert (1996) argues that Horicon Marsh programs should go beyond wildlife, wildlife ecology, and management, to "impart an understanding of natural ecosystems through the study of wildlife in the hopes of instilling a land ethic."

**Environmental Education in Wisconsin, the U.S., and the World**

Environmental education, in a rudimentary form, may have started more than 100 years ago. Early forms, or antecedents, of EE included nature study, outdoor education, and conservation education (Disinger, 1983). What we acknowledge today as EE was clearly verbalized in the late 1970s. According to the Belgrade Charter (UNESCO and UNEP, 1976) the main goal of environmental education should be to develop a world population that is aware of and concerned about the total environment and its associated problems. Such education should provide the knowledge, attitudes, skills, motivations, and commitment to work individually and collectively toward solutions of current problems and the prevention of new ones.

This goal was reiterated at the Intergovernmental Conference on Environmental Education, held in Tbilisi, Georgia (USSR) from 14 to 26 October 1977. The Tbilisi Declaration is considered one of the most important documents in the history of environmental education (Hungerford, et al., 1998.) This seminal document outlines goals, categories, and guiding principles for environmental education (UNESCO and
UNEP, 1976). Environmental educators commonly refer to the five categories as sub-goals, which the Tblisi Declaration defined as follows:

- **Awareness**: to help social groups and individuals acquire an awareness and sensitivity to the total environment and its allied problems.
- **Knowledge**: to help social groups and individuals gain a variety of experience in, and acquire a basic understanding of, the environment and its associated problems.
- **Attitudes**: to help social groups and individuals acquire a set of values and feelings of concern for the environment and the motivation for actively participating in environmental improvement and protection.
- **Skills**: to help social groups and individuals acquire the skills for identifying and solving environmental problems.
- **Participation**: to provide social groups and individuals with an opportunity to be actively involved at all levels in working toward resolution of environmental problems.

Wisconsin passed legislation in 1935 requiring instruction in the conservation of natural resources at both the elementary and secondary level and requiring science and social studies teachers to have adequate preparation in the conservation of natural resources. The phrase “adequate preparation” was not defined until the 1960s (Engleson, pers. comm., 2000) and in the late 1970s a committee redrafted the rule, which ultimately was implemented effective July, 1985 (Engleson and Yockers, 1994).

The 1985 edition of *A Guide To Curriculum Planning in Environmental Education*, produced by the Wisconsin Department of Public Instruction (DPI), has been
used in the U.S. and in more than 40 countries (Engleson and Yockers, 1994). Wisconsin Administrative Code PI 8.01(2)(k), mandated that by 1990 all school districts would develop and implement a written, sequential curriculum plan incorporating EE into all subject areas (Engleson and Yockers, 1994).

Despite such mandates for teacher education and EE curriculum, there is much room for improvement in Wisconsin. A survey by Lane, Wilke, Champeau, and Sivek (1996) revealed a large number of teachers are still being certified without training in EE. These results are similar to those contained in the report, *Environmental Education in Wisconsin; Are We Walking the Talk?* (Wisconsin Center for Environmental Education, 1997), which collects the results of a comprehensive study of 3,500 Wisconsin students, 900 teachers, and 1,100 school administrators. Key findings included:

Wisconsin teachers reported that more than 50% of the schools do not have an EE curriculum plan in operation.

Wisconsin school administrators reported that about a third of their ranks did not have the knowledge or background to promote EE in their schools and that 20-40% of their schools do not have EE curriculum plans in operation. Also, those that have EE curriculum plans were concerned with the quality of those plans, and many administrators felt teachers needed to express more of an interest in EE.

A 1998 document from the DPI, *Wisconsin's Model Academic Standards for Environmental Education*, clearly supports the need to develop and improve EE in Wisconsin schools. Toward the same goal on a national level, the North American Association for Environmental Education (NAAEE) published a series of documents as part of the National Project for Excellence in Environmental Education. The two most recent documents include *Excellence in Environmental Education – Guidelines for Learning (K-12); Executive Summary & Assessment*
Tool (1999) and Guidelines for the Initial Preparation of Environmental Educators (2000). The former contains a set of guidelines that describe a skill level or knowledge appropriate for each of three grade levels: fourth, eighth, and twelfth. The latter recommends what basic knowledge and abilities educators need in order to provide high-quality environmental education in a variety of settings.

The Influences of Field Instruction

Studies demonstrate that field trips increase retention of ecological knowledge. While residential programs have been shown to produce greatest impact, even one-day programs can foster improved education (Bogner, 1998). The values of supplementing classroom instruction with outdoor-based EE were demonstrated by studies based in Central Wisconsin, including those of Birkholz, et al. (1996), Carmichael (1999), and Mancl (1994).

Long-term memory is improved when the new material is related to previous material (Disinger and Lisowski, 1991). Volk and McBeth (1997) similarly observed that instructional events that are “stand-alone events” have the least chance of being integrated into a learner’s working knowledge of the world. In practical terms, this means that field trips should be preceded by relevant pre-trip activities in the classroom as well as followed by post-trip activities that reinforce the field learning (Dettman-Easler and Pease, 1999).

Gross and Pizzini (1979) reported observable change in the environmental orientations of fifth and sixth-grade students following a treatment consisting of advance organizers and a one-day field experience. During one of a series of studies conducted by
personnel at the Smithsonian Institution's Chesapeake Bay Center for Environmental Studies, Falk and Balling (1982) demonstrated that children learn a great deal on well-structured field trips, indicating that design and execution of the field experience, including well planned pre-trip orientation, are critical. Also, the most effective pre-trip orientation was that conducted by the classroom teacher trained in advance in a targeted workshop. Orientation by a resource person from the zoo, or by the classroom teacher supported only by zoo-generated printed materials, was found to be less useful.

Chawla (1999) determined that childhood experience of natural areas is one of the most important sources of environmental commitment. Chawla urges that “important as school-based instruction may be -- environmental educators need to seek ways to foster the type of out-of-school experiences that figure so saliently in environmentally committed people’s memories.”

Similar words of wisdom are found outside the scientific realm, from one of America’s earliest environmentalists, John Burroughs (1905):

To absorb a thing is better than to learn it, and we absorb what we enjoy. We learn things at school, we absorb them in the fields and woods and on the farm. When we look upon Nature with fondness and appreciation she meets us halfway and takes a deeper hold upon us than when studiously conned. Hence I say the way of knowledge of Nature is the way of love and enjoyment, and is more surely found in the open air than in the school room or the laboratory.

**Education and Interpretation at the Mead Wildlife Area**

The word education does not appear in the original *Master Plan for the Mead Wildlife Area* by Berkhahn et al., 1979. Nevertheless, the authors recognized “only limited efforts have been made to accommodate non-hunting recreational uses and much could be done to encourage an increase in both group and individual uses of this type.”
Jones (1989) produced the first master plan for both interpretive and educational programming at the MWA. The Jones thesis contains much useful information on interpretive resources and visitor characteristics. It also contains a program activity guide for teachers. This was never published.

Cold (1992) produced a brief guide specific to the Mead Wildlife Area. This interprets the natural communities of the site and the techniques employed by the DNR in managing them. It describes the physical, biological, and ecological characteristics of wetlands. Concepts are designed for fifth graders, yet also meet the primary information needs of adults not familiar with wetlands.

**Environmental Interpretation**

Environmental interpretation is an art, a form of customer service, and a blend of education and inspiration. As a field, interpretation began during the late 1800s, during the same era when the first U.S. National Parks were being created. Enos Mills is generally considered the father of the profession we today call interpretation (Regnier et al., 1992). Mills referred to the profession then as “nature guiding.” He defined a “nature guide” as a naturalist who can guide others to an understanding of nature, arousing interest by dealing more in inspiration than in information (Danton, 1979).

The art of interpretation was verbalized in the mid-1950s, with the publication *Interpreting Our Heritage*, by Freeman Tilden. In this book, Tilden (1957) defined interpretation as “an education activity which aims to reveal meanings and relationships through the use of original objects, by first-hand experiences, and by illustrative media, rather than simply to communicate factual information.” He further described how
interpretation aims to connect meanings of the resource with the interests of a voluntary audience.

Interpretation often represents an ephemeral opportunity. Judd (1991) defined this quality: “The time frame for interpretation ranges from very brief (the time it takes to read an interpretive sign) to several hours (the time it would take to complete an interpretive hike). The impact of the scope and sequence of interpretive programs must be realized in a single experience since the audience changes with the program.”

There exist lumpers and splitters in the world. Some people place environmental interpretation and environmental education in the same category; others see them as two distinct endeavors. Those who insist they’re the same thing argue that both have the same terminal goal: to produce citizens capable of responsible environmental actions and decisions (Knapp, 1997). Others, while recognizing that interpreters and educators can address the same topics, still point to key differences. Zuefle (1997) commented:

Failing to know what business one is in can be a particularly devastating kind of failure. There are differences between presenting programs in recreation settings to informal audiences who can leave at any moment and in teaching sequential and outcome based programs to captive audiences. Big differences – or at least they should be. After all, these are differences in material content, differences in the way the material must be presented, and differences in the subjective experiences of the target audience members.

**Development of Interpretive/Educational Centers**

The term interpretive center can be used to describe both visitor centers, such as found in the National Parks, as well as nature centers, which are generally community-based and often represent islands of green in urban areas. Nature centers and visitor centers emerged as distinct institutions in the 1950s and 1960s, yet a continuum of facilities exist that share features of both, and many serve dual roles (Gross and
Of special relevance to this research project, some interpretive centers also serve as education centers, for many agencies will call upon staff to interpret and to educate, as part of the same job (Zuefle, 1997).

Important to the understanding of the role of interpretive centers is a little knowledge of their history. Mackintosh (1986) relates that during the 1920s, in the decade following the creation of the National Park Service, controversy was growing around the creation of museums in the National Parks. Hermon C. Bumpus, who had been first director of the American Museum of Natural History in New York, had strong ideas on this subject. Bumpus is remembered for promoting the concept of a “focal-point” facility to take interpretation to where it’s relevant: “The real museum is outside the walls of the building and the purpose of the museum work is render the out-of-doors intelligible.” Modern interpretive centers do just that. They provide a focal point for appreciation of resources, either by fostering a sense of place (Hilten and Hilten, 1997) or by revealing the less-tangible genius loci, or spirit of place (Bell, 1993).

People don’t go to places like the Mead Wildlife Area to see a building; the real draw is the site itself (Ellingboe, pers. com., 2000). Yet buildings enable people to enjoy outdoor sites by providing for the basic physical needs, as defined by Abraham Maslow (Gross & Zimmerman, 1998). A study by McCaw (1980) suggests that while an outdoor learning site should never become centered on a building, the provision of a comfortable shelter is important.

Part and parcel of interpretive center development is the creation of interpretive exhibits. Veverka (2000) argues that planning should focus more on the visitor and less on the place. Gross and Zimmerman (undated) point out that “research has shown a need
to balance education, entertainment, and exhibit types to effectively reach the visitor.”

There are four design principles that should guide visitor center development: function, site harmony, economics, and sustainability (Gross and Zimmerman, 1998). In planning visitor services, it is vital to seek information from visitors, so that services will be "in tune" with visitor expectations (Blahna and Roggenbuck, 1979).

**Planning and Evaluation Tools**

Evaluation represents an important component of program design (Carmichael, 1999). For any programs on National Wildlife Refuges, the U.S. Fish and Wildlife Service (2000) suggests that informal evaluation of visitor services programs should occur annually, and a formal evaluation should take place at least once every five years.

For interpretive programming in national parks, Wright and Wells (1990) discuss twelve evaluation techniques, ranging from quantitative approaches such as importance/performance analysis, cost benefit analysis, and voluntary visitor responses to qualitative methods such as focus groups, observation, and connoisseurship/criticism. As they point out, quantitative data lend themselves to statistical analysis, while qualitative techniques tend to summarize data using words or narrative rather than numbers.

Gross and Zimmerman (undated) assert that interpretive exhibit development should include some form of evaluation to insure exhibit efficacy and satisfaction of visitors, maintenance staff, and administration. Griggs (1981) proposed “front-end evaluation” as a crucial step in the process, to save time, money, and energy. Wright & Wells (1990) describe evaluation as a cycle having neither a beginning nor an end. They
distinguish between two phases of the cycle: formative and summative. Formative
evaluation is a type of analysis that occurs while an exhibit is being developed (Griggs,
1981). Summative evaluation occurs after a program (or exhibit) is developed; it helps
establish if the program (or exhibit) is working (Borg and Gall, 1983).

**Assessing Needs & Designing Surveys**

The third sub-problem of this thesis addresses needs. Educational needs can be
assessed systematically using research methodology (Borg and Gall, 1983). The authors
define need as “a discrepancy between an existing set of conditions and a desired set of
conditions.” Needs assessments reflect judgement on the merit of current conditions.

A primary tool of much social science research is the self-administered
questionnaire, delivered by the U.S. Postal Service. One of the main problems of this
tool is response rate (Dillman, 1978); however, the Total Design Method (TDM)
developed by Dillman has consistently produced higher response rates than are
traditionally expected from mail surveys (Dillman, 1991). TDM features two parts: 1) First identify each aspect of the survey process that seems likely to affect either the
quality or quantity of response and to shape each one in a way the best possible responses
can be obtained. 2) Organize the survey efforts so that the design intentions are carried
out in complete detail. Dillman (2000) argues that mixed-mode surveys may improve
response rates, but highlights the "unsettling problem that people’s answers to any
particular question vary depending on the survey mode."

Questionnaires should be designed to fulfill a specific research objective
(Leedy, 1993), and questions must be worded precisely if responses are to be accurate
and the survey valid (Sudman and Bradburn, 1982). People not only need to understand
what is wanted of them if they are to respond, they must be motivated to go through the process associated with understanding and answering each question and returning the questionnaire to the survey sponsor (Dillman, 2000). The theory of social exchange, which explains the development and continuation of human interaction, is a useful guide for organizing a survey (Dillman, 2000). The theory advances that individuals act because they are motivated by the return these actions are expected to bring (Blau, 1964; Gallegos, 1974; Dillman, 1978; Goyder, 1987).

The questionnaires used in this study sought both quantitative and qualitative data, which is not unusual in modern research. Leedy (1993) states, "Qualitative and quantitative data may compatibly live in the same house; the terms refer more to a global atmosphere in which the researcher attempts to solve the basic problem for research, not to any exclusive method of operation."

Most quantitative studies seek to generalize the results of a sample to a larger population (McNeil, 1999). In order for the generalization to be valid, that sample must be chosen carefully. As Dillman (2000) points out, "The ability to estimate with considerable precision the percentage of a population that has a particular attribute by obtaining data from only a small fraction of the total population is what distinguishes surveys from all other research methods."

Using Focus Groups

Another important tool of this research project is the focus group. A focus group is a structured group discussion on a specific topic or area of interest (Wright and Wells, 1990). Focus groups reveal participants' reactions, expectations, desires, interests, and
motivations (Wright and Wells, 1990). A main advantage of a focus group is that it allows a researcher to gather a large amount of information on a topic in a limited amount of time (Carmichael, 1999). Wright and Wells (1990) identified the limitations of focus groups:

- Focus groups are normally not large enough to provide quantitative conclusions, nor should the information gathered in a focus group be assumed to be scientifically generalizable to a larger population. Follow-up quantitative research is appropriate in some cases to ensure generalizability. Also, two or more focus groups conducted on the same topic or same set of questions helps guard against idiosyncratic findings.

- Basic concepts must be conceived already or the session is likely to be merely a brainstorming session. Presenting broad issues will not be as productive as presenting specific, well-developed concepts for reaction and discussion.

- Steamroller effect is possible (i.e. persuasive member(s) can unduly sway opinions/attitudes of others).

The use of focus groups fits into the category of qualitative research, which is scientific because it involves rigorous and systematic empirical inquiry (Bogdan and Biklen, 1982). Focus groups are also most effectively used during times of change or review as well as to gather information to help establish programs or services (Wright & Wells, 1990). Questions asked of participants should be open-ended, meaning no answer is implied (Wright and Wells, 1990). The number of focus groups conducted depends on
the information sought. When additional focus groups don’t produce new ideas, there is no need to conduct more discussions (Morgan, 1989).

Two other components of using focus groups include the methods of recording and analyzing data. For this project, recording was done with a small, unobtrusive audiocassette recorder, and the recording was transcribed by the researcher. Numerous decisions about style and ethics must be made during this process (McNeil, 1999). One of the problems of the process is that the transcript represents only a partial account of the entire occurrence, or in other words, "artificial constructions from an oral to a written mode" (Kvale, 1996). The style of the transcript, such as word-for word versus edited/condensed, must be suited to the audience from which it is intended (McNeil, 1999).

The final component of focus group research is data analysis. Miles and Huberman (1984) recommend counting, clustering, noting patterns or themes, and noting relations between variables. Bogden and Biklen (1982) suggest development of category codes by reading through the data and looking for certain words, phrases, or events that repeatedly occur.

Marketing

One of the most important tasks that await the staff of the Mead Wildlife Area is to successfully market the proposed facility. Marketing, as a discipline, has evolved to mean much more than simply buying, selling, and advertising (Yarmark, 1995). It still connotes exchanges between customers and providers, but marketing now transcends into how transactions are created, stimulated, facilitated, and valued (Kotler, 1972).
It cannot be assumed that what an agency wants or likes is what the visitors want (Yarmark, 1995). Effective marketing requires a dialogue with the audience -- a two-way exchange (Merriman, 1996). Why should the Wisconsin DNR care? Merriman (1996) makes a strong case:

Sales-driven organizations have given way to market-driven ones in the last few decades. Market driven businesses want to know what the customer thinks of the services and products delivered. Making the sale is not the only objective. Customer-centered business managers believe that the profits follow if you are really customer-oriented. These profits can come in the form of advocacy and political support for public agencies.

At its core, the customer-centered organization is one that is based on good communication. Every interpretive text or teacher encourages us to know our audience... Our mission to preserve resources, educate children, and stimulate interest in heritage will be the ultimate winner.

In the private sector, public relations research is routine, particularly among large companies and organizations; however, this is not true in government agencies (Fazio & Gilbert, 1986.) There are many different ways in which publics can be involved in natural resources management; there is one way that must be avoided (Fazio & Gilbert, 1986):

Public involvement that is conducted as a ritual without intention of giving some degree of power to the participants is a sure route to poor public relations. Disappointment, frustration, and anger are the inevitable results... As the saying goes, “Don’t ask for advice unless you are ready to heed it.”
Chapter 3

Methods

This chapter is organized by the sub-problems of the research project. Each sub-problem is reiterated then examined in terms of what information was sought and how it was obtained.

Sub-problem 1: Assess the current status of educational and interpretive programs at the Mead Wildlife Area.

Identify Key Documents

In addition to a library catalog search at UWSP, the following individuals were consulted for assistance in locating key documents pertaining to the mission of the Mead Wildlife Area and the wildlife education program of the Wisconsin DNR:

- Thomas I. Meier, property manager, Mead Wildlife Area
- Mary K. Salwey, education coordinator, Bureau of Wildlife Management

Interview Key DNR Staff

Beginning March 2000, personal contact was established with the full-time staff of the MWA. The staff included Tom Meier (property manager), Brian Peters (wildlife technician), Tony Geiger (wildlife technician), Beth Arthur (wildlife technician), and Tom Weber (mechanic). Between March 2000 and June 2001, notes were taken of all conversations, formal or informal, pertaining to staff involvement in past and present education efforts.
Contact was also established with the DNR wildlife education committee composed of Mary K. Salwey (education coordinator, Bureau of Wildlife Management), Bill Volkert (wildlife educator, Horicon Marsh), Gene Tiser (regional education coordinator, Northeast Region), Chris Cold (wildlife educator, Northern Region), Jim Hoefler (wildlife educator, Crex Meadows), and Dick Thiel (wildlife educator, Sandhill).

Wildlife education committee meetings were attended 5 April 2000 and 14 March 2001. Frequent personal communications (phone calls and e-mails) were exchanged between March 2000 and May 2001 for the purpose of understanding the current status of wildlife education in Wisconsin and the challenges faced by individual wildlife areas in developing and expanding their educational and interpretive programs.

**Observe educational programs**

To track school use of the MWA, an "On-Site Tour Registration" form was created. For a model, a form used by Dick Thiel at Sandhill was modified. Personal observations were made of public school use of the MWA during the spring and fall semester of 2000 and the spring semester of 2001. At the conclusion of the field trip, teachers were asked to complete a brief post-trip survey (see Appendix A).

**Inspect interpretive media**

Site inspection began in March 2000. Existing interpretive media were compared to those recommended for implementation in the Jones (1989) *Interpretive and Educational Master Plan for the George W. Mead Wildlife Area.*
Sub-problem 2: Identify other wildlife-based properties (state and federal) having educational and interpretive programs that can be used as models for MWA programs.

Identify sites

To identify useful models of wildlife properties in Wisconsin, the annual meeting of the DNR wildlife education committee was attended 5 April 2000 at Navarino Wildlife Area. At that meeting, education coordinator for the Bureau of Wildlife Management, Mary K. Salwey was consulted. Salwey identified four state wildlife areas that already have existing educational and interpretive programs: Crex Meadows, Horicon Marsh, Navarino, and Sandhill.

To identify useful models of wildlife properties outside of Wisconsin, recommendations were again sought from Mary K. Salwey and also from Wisconsin state naturalist, Deborah Beringer. They suggested contact with the states of Missouri and Arkansas. (These two states are well known for their conservation education programs; also, their conservation departments are funded by a one-eighth percent state sales tax.) Contact was then made with education coordinators in those states. Based on multiple telephone conversations with these education coordinators, two properties from each state were identified as study sites.

Education Coordinators: Arkansas and Missouri

- Marcus C. Kilburn, education and outreach division chief, Arkansas Game and Fish Commission

- Jim Wilson, education director, Missouri Department of Conservation
Arkansas Study Sites

- Potlach Conservation Education Center at Cook's Lake, Casscoe
- Rick Evans Grandview Prairie Conservation Education Center, Columbus

Missouri Study Sites

- August A. Busch Memorial Conservation Area, St. Charles
- Ted Shanks Conservation Area, Ashburn

Request site-specific documents relating to educational and interpretive use

E-mail and telephone contact was made with educators working at the eight sites selected (Appendix B). An important part of this contact was to establish the purpose of the research project. The educators were assured that the researcher's task was not to look for flaws in their programs and facilities, but rather, to identify things that are done well at those sites that could potentially serve as models for the development of the education facility at the Mead Wildlife Area. Within this context, a request was then made for any documents or reports relating to the education and interpretation programs available at the study sites. Information sought included annual visitor reports, brochures, curriculums, and master planning documents.

Prepare evaluation tool for site visits

The search for an evaluation tool led to contact with the U.S. Fish and Wildlife Service, Division of Education Outreach, Training Branch, at National Conservation Training Center in Shepherdstown, WV. Outreach coordinator Dawn Lagrotteria provided a copy of the draft of the Visitor Services Requirements Evaluation. This
document was prepared in 2000 by a team led by Sheri Fethermen in the Denver Regional Office, and it updates public use standards that were in effect since the early 1980s.

This evaluation tool is used by U.S.F.W.S. personnel to conduct visitor service evaluations of National Wildlife Refuges. This tool is based on ten Visitor Service Requirements as found in *Fish and Wildlife Service Manual Chapter 605 FWI, General Guidance*. Six of these ten requirements seemed to have application to this research project. These were modified and condensed into a tool; also incorporated were the four "Dimensions of Design" suggested by Gross and Zimmerman (1998). Appendix C contains the completed tool.

Visit Sites

The four Wisconsin sites were visited in 2000. Visitor service evaluations were not used at Wisconsin sites; however, educators at Navarino and Sandhill were interviewed in-person at their respective facilities. Annual visitor use files at Sandhill were reviewed.

Guided tours of the four out-of-state properties were scheduled for March 2001. Site educators were available to guide tours at all sites except the Ted Shanks Conservation Area. The visitor service evaluation was used as a general guide, but no evaluation was completed in its entirety for any site. Some interviews of site educators and/or managers were audio-taped. A video recorder and 35mm camera were used to document key features (dimensions of design) of educational and interpretive structures.
Tour dates

17-18 March  Ted Shanks Conservation Area
18-19 March  August A. Busch Memorial Conservation Area
20-21 March  Potlach Conservation Education Center
21-22 March  Rick Evans Grandview Prairie Conservation Education Center

Write property summaries

The results contain a brief description of each property. An eclectic approach is used to highlight facility and program components that could be used as models for the MWA. Tables are used to present visitor use data for 2000.

Sub-problem 3: Identify the target audience for educational programs at the MWA and identify what factors would most compel teachers to use the MWA as a teaching site.

Identify target audience

The property manager of the MWA was consulted to determine which school districts have used the Mead regularly in the past. Annual visitor reports do not exist, but it was determined from the property manager's recollection that, historically, most school users of the MWA came from 7 public school districts within a 25-mile radius of the MWA headquarters: Auburndale, DC Everest, Marshfield, Mosinee, Stevens Point Area, Wausau, and Wisconsin Rapids. It was decided that teachers in these districts should be surveyed to determine if they would represent likely users in the future. To obtain
numbers on student enrollments and staff, each district office was contacted by phone in January 2001.

**Identify survey population**

The survey population is defined as all the units to which generalizations will apply. A list was obtained from the Wisconsin Department of Public Instruction of all the 5-6 grade teachers and all of the 7-12 science teachers in the seven districts identified as the target audience. From this list, all of the 5-6 grade teachers who teach all subjects and all of the 7-12 grade science teachers were selected as the survey population.

The following definitions (Dillman, 2000) were used in analysis:

- Survey population – all the units to which generalizations will apply
- Sample – all the units of the population that are drawn for inclusion
- Completed sample – all the units that return completed questionnaires

**Survey instrument**

A two-page questionnaire with cover letter (Appendix D) was developed to answer six questions relating to the target audience: 1) Do teachers take students on EE field trips? 2) Where do teachers take their students on EE field trips? 3) What things would motivate a teacher to bring students on an EE field trip to the Mead Wildlife Area? 4) What is the relative importance of an on-site educator in terms of attracting school users to the MWA? 5) What curricular objectives would teachers like to address on a field trip to the MWA? 6) How often do the teachers infuse or integrate EE into the curriculum they teach?
The theory of social exchange, which explains the development and continuation of human interaction, is a useful guide for organizing a survey (Dillman, 2000). The following elements of the Total Design Method (Dillman, 1978) were used in writing the teacher questionnaire and a cover letter which accompanied it.

Ways of Providing Rewards:
- Show positive regard
- Say thank you
- Ask for advice
- Support group values
- Give tangible rewards
- Make the questionnaire interesting
- Give social validation
- Inform respondents that opportunities to respond are scarce

Ways of Reducing Social Costs
- Avoid subordinating language
- Avoid embarrassment
- Avoid inconvenience
- Make questionnaires appear short and easy
- Minimize requests to obtain personal information
- Keep requests similar to other requests to which a person has already responded

Ways of Establishing Trust
- Provide a token of appreciation in advance
- Sponsorship by legitimate authority
- Make the task appear important
- Invoke other exchange relationships

A validity panel was used to critique the draft questionnaire. This was done to ensure that the questions addressed the research objectives. As a result, several questions were revised. The following individuals participated in this process:

- Dr. Michael P. Gross, professor of environmental interpretation, College of Natural Resources, UWSP.
- Dr. Dennis H. Yockers, associate professor of environmental education, Wisconsin
Sampling protocol

Initial Contact

The superintendents of the seven public school districts were contacted by phone before any sampling occurred. Three superintendents objected to sampling all of the teachers in their district who were in the original survey population identified. To paraphrase their stated reasons for this objection, the survey would "impose too much" or "create unnecessary work" for their teachers. Two superintendents suggested that sampling should only occur on a self-selected basis. In other words, teachers who had interest in participating in the surveys could agree, in advance, to receive a survey. This method, although not random, was selected in the interests of good public relations with each of the seven districts.

Consent Form

District superintendents were asked to sign and return a form of consent (Appendix E). The form was modeled after a form used by McNeil (1999). The form described the purpose of the research and assured confidentiality of survey responses in
final reports, including this M.S. thesis. Each superintendent kept a signed copy for his record.

Redefinition of survey population

To avoid sampling error (collecting data from only a subset, rather than all members of the sample frame) and coverage error (every unit in the survey population not having a known, non-zero chance of being included in the sample) the survey population had to be redefined. Essentially, the survey population became all of those teachers agreeing to receive a mail survey.

Teacher solicitation

A letter was drafted to solicit teacher interest in taking the survey. District offices distributed this request by e-mail to all the teachers identified as the original survey population. Teachers willing to participate were instructed to contact the researcher (e-mail or telephone). The names of 129 teachers who made this contact were added to a Microsoft Access database file, and this became the sample.

Mail survey

A mail merge was used to personalize cover letters/fact sheets that accompanied 129 questionnaires. The questionnaires were mailed (U.S. Postal Service) on Saturday, 10 February 2001. On 26 February 2001 thank-you postcards were sent to 79 teachers who had responded to the survey. On that same day, reminder postcards were sent to 50 teachers who had not yet returned questionnaires. Following this, thank you cards were sent to teachers on the day their completed questionnaires were returned. The original due date for survey return was 19 February; however, completed surveys were accepted up to 16 March, when data entry was completed.
Data analysis

A Microsoft Access form was created and all survey responses were entered. Microsoft Access queries were run for each of the eight questions asked. For some of the questions, responses were sorted using following teacher categories:

- Elementary Grades 5-6
- Middle Grades 7-8
- High Grades 10-12

Questions numbers one through four yielded quantitative and qualitative data that are presented in tables using descriptive statistics such as percentages. Questions number five and six obtained quantitative and qualitative data using a Likert scale. This scale was assumed to be non-interval, or ordinal. It "measures" in terms of values such as "more" or "less" without specifying the size of the intervals. For this reason, the data cannot be analyzed using arithmetic means. Instead, median, mode, and percentage of respondents were used.

Questions seven and eight yielded a combination of quantitative and qualitative data; the latter required category coding. Categories were named after all of the questionnaires were read through several times and naturally occurring categories began to emerge. The category names were given codes that represent abbreviations of the names.
Sub-problem 4: Assess the views of the local community toward the proposed development at MWA, including the new building and its associated programs.

Conduct focus groups

Participant selection

The process of identification and recruitment of the right people is the most overlooked and underestimated aspect of using focus groups (Krueger, 1988). For this study, participants were recruited from local chapters of conservation organizations and sporting clubs. The goal was to recruit participants representative of year-round users of the MWA, including hunting and non-hunting users of the MWA.

Officers of the following organizations were contacted by phone:

- Audubon Society, Aldo Leopold Chapter
- Central Wisconsin Sportsman's Club
- Friends of the Mead McMillan Inc.
- Mosinee Sportsman's Alliance
- Ruffed Grouse Society
- Sierra Club
- Wausau Bird Club
- Wetlands Conservation League
- Wildlife Society, UWSP
- Wings Over Wisconsin
- Wisconsin Waterfowl Association
On first contact, officers of these clubs were briefed on both the overall purpose of the research project and on the specific objective for the focus group discussion. Officers were asked to help identify those members who were users of the MWA and who might have interest in participating in a focus group. As possible participants were identified and contacted, a list was assembled of weekday evenings when people would be able to attend a focus group. Four meeting times and three locations were established to maximize participation (Table 3-1).

Table 3-1 Summary of Focus Group Locations, Times, and Final Participant Numbers

<table>
<thead>
<tr>
<th>Meeting Date</th>
<th>Location</th>
<th>Total Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 December 2000</td>
<td>Marshfield, private home</td>
<td>6</td>
</tr>
<tr>
<td>29 January 2001</td>
<td>Stevens Point, Schmeeckle</td>
<td>3</td>
</tr>
<tr>
<td>5 February 2001</td>
<td>Stevens Point, Schmeeckle</td>
<td>7</td>
</tr>
<tr>
<td>13 February 2001</td>
<td>Wausau, private home</td>
<td>4</td>
</tr>
</tbody>
</table>

Procedure

As participants arrived at the specified meeting location, the researcher (who also served as discussion moderator) greeted and invited everyone to complete a participant questionnaire (Appendix F) designed to assess characteristics of the study group members. The meetings began with personal introductions and then briefing by the discussion moderator. The briefing was standardized using a prepared, written summary of the research project and the objective for the focus group (Appendix G). Permission was asked to audio-record the discussion before it began.
The moderator opened all discussions with an open-ended question to identify issues surrounding or concerns about the proposed development at MWA. As specific points were made and reacted to by discussion members, the moderator asked subsequent questions to clarify all opinions expressed. An effort was made to keep the discussion focused on the main topic.

The focus group discussions varied in length from approximately 30 minutes to one hour and 15 minutes. In exchange for their involvement, participants were provided refreshments during the focus group. Also as a token of appreciation, they were given their choice of a variety of inexpensive field guides or nature books at the conclusion of the meeting.

Transcription of Audio Tapes

Audio tapes of the focus group discussions were transcribed by the researcher. An attempt was made to transcribe word-for-word; however, comments not related to the project and redundancies were edited out. Names of participants were not used; instead, each was assigned a number.

Analysis of Transcription

The goal of analysis of the transcripts was to reveal consensus as well as identify conflicts of interest. Categories were named after all of the transcripts were read through several times and naturally occurring categories began to emerge. The category names were given codes containing three to four characters of the alphabet. For example, DNS refers to the category name "User Density". Statements from the transcripts were then categorized. Some statements fit into more than one category.
In the results, the origin of a statement is identified by parentheses containing a numeric code with three pieces of information: the focus group number, the individual participant number, and the page within a transcript where the statement occurs. For example, the code (1.2.3) means a statement was made during Focus Group 1 by participant number 2 and appears on page 3 of that transcript.

Interview users on site

A snowshoe race open to the public and hosted at the MWA 27 January 2001 by the Friends of the Mead McMillan, Inc. was selected as an opportunity for interviewing users on site. Following the race, 30 of the 70 people participating in the event were selected randomly for a brief interview by the researcher. The length of the interview was limited by the air temperature (about 0 degrees Fahrenheit) and the circumstances: fatigued racers were anxious to get inside their heated cars and go home after the race!

Two preliminary questions were asked: 1) Is this your first time at the Mead? 2) Have you heard about the proposed development of a new headquarters/education facility? Opinions were sought from 11 people who had previous knowledge of the development proposal. Permission was asked to record a brief statement of their opinions. Statements were later transcribed and analyzed using the same techniques used for focus group data.
Monitor voluntary visitor registration

To assess the general interests of recreational users, a voluntary visitor register was placed at the kiosk adjacent vault toilets where the Berkhahn bike trail heads. Visitors were asked three things: the date of their visit, the number in their party, and their primary purpose of visit. This register was monitored monthly from July 2000 to June 2001.

Sub-problem 5: Produce a set of recommendations on design of the proposed building and development of educational and interpretive programs.

In the strictest sense, the fifth sub-problem is not a sub-problem. It is the main purpose of the research project. Since it uses a methodology, it is included in this chapter. The results of this sub-problem, however, do not appear in Chapter 4. Instead, they appear as recommendations in Chapter 5.

Recommend modifications to building design

The exterior and interior of the proposed facility are examined in terms of four dimensions of design (Gross and Zimmerman, 1998): 1) Is the building in harmony with site? 2) Does the building provide for people? 3) Is the building economical? 4) Is the building sustainable?

The basis for the recommendations comes from two things. 1) Examples of successful designs observed at the eight study sites. 2) Statements of focus group participants.
Recommend short-term program development

These recommendations synthesize the results of sub-problems 1 and 3. They take the form of an implementation timeline, to suggest a logical sequence of strategies and tasks that should occur between September 2001 and June 2003 in order to successfully establish a modest level of usage of the new facility.

Recommend goals for curriculum development

These recommendations synthesize the results of sub-problems 1, 2, and 3. Results of post-trip surveys and results of question number 8 of the teacher survey are re-examined. Curriculums used at the 8 study sites are referenced as models. A sample curriculum is offered.

Recommend long-term development

These recommendations synthesize the results of sub-problems 1, 2, 3, and 4. The goal is to provide a vision for development of future educational and interpretive programs at the MWA. These recommendations go beyond what must be done just to get a modest program up and running.
Chapter 4

Results

This chapter is organized by the sub-problems of the research project. Each sub-problem is reiterated and the results are reported in narrative form and/or tables.

Sub-problem 1: Assess the current status of educational and interpretive programs at the Mead Wildlife Area.

It is clear that educational use of the Mead is currently very low. Compared to the 1800 students that used the property in 1988 (see Table 1-1), educational use of the MWA in 2000-2001 was practically non-existent. It should be noted, however, that school use of the MWA reported in Table 4-1 only included K-12 use. Not included was sporadic use of the property by students and faculty of the University of Wisconsin, Stevens Point.

Table 4-1 Public school use (K-12) of Mead Wildlife Area Spring 2000 through Spring 2001

<table>
<thead>
<tr>
<th>Semester/Year</th>
<th># School Groups</th>
<th># Districts</th>
<th># Students</th>
<th>Ave. Group Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring 2000</td>
<td>1</td>
<td>Wausau</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td>Fall 2000</td>
<td>1</td>
<td>DC Everest</td>
<td>68</td>
<td>68</td>
</tr>
<tr>
<td>Spring 2001</td>
<td>2</td>
<td>Wausau, WI</td>
<td>27</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WI Rapids</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>3</td>
<td>186</td>
<td>48</td>
</tr>
</tbody>
</table>
Due to a small sample size (4 teachers), the results of the field trip evaluations are hardly conclusive (Appendix H). Still, all four teachers said they would use a new building, if one were available. One of the four groups got rained out, and they spent part of the day inside the shop. The teacher was very glad they had any shelter at all; however, she said a classroom would have been better. One teacher said he would like an area with displays of animals and plants that could be seen at MWA. Staff interviews (Appendices I and J) revealed that staff time available for education is low; however, education is still important to the property manager, who delivered 26 off-site presentations during the year 2000 (Table 4-2).

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of presentations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>23</td>
</tr>
<tr>
<td>2000</td>
<td>26</td>
</tr>
<tr>
<td>2001</td>
<td>30</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>79</strong></td>
</tr>
</tbody>
</table>

Two key documents exist to guide educational and interpretive program development at MWA: Jones (1989) *An Interpretive and Educational Master Plan for the George W. Mead Wildlife Area* and Judd (1991) *Wildlife Education: Teaching Responsible Use of Our Wildlife Resource*. The latter outlines the responsibilities of field wildlife education specialists, arranged in the framework of the six goals of the strategic plan of action for the wildlife education program in Wisconsin.
Four interpretive waysides exist, as per the Jones plan. Also, there is a sign adjacent the existing kiosk which orients users to the Berkhahn Rookery Bicycle Loop. The wetlands boardwalk proposed by Jones, with six waysides, has not been constructed. The brochures and folded publications recommended by Jones are not available, except for a property map which exists, courtesy of the Friends of Mead McMillan, Inc. A 35mm slide presentation about wildlife management at the MWA is used to orient school groups, and a well-trained great horned owl is a popular teaching tool. A collection of furs is used for hands-on activities, and there is a display of mounts, skulls, and property artifacts in the lobby of the existing headquarters.

A new master property sign was created in 2000. This large wooden sign (5 X 12 feet) replaces the old sign that has been in place adjacent the Teal Flowage since August 1959. Directional signs to the MWA were also erected in 2000. These are located along State Highway 10, west of Milladore, and on County Highways S north and south of the current headquarters. A small water-control structure is currently being installed at Flowage #1, near headquarters. This fully-functional structure will also be used as an interpretive exhibit, where students can have a hands-on experience. An observation deck is being created immediately below this structure. Consideration is being given to creating boardwalks to access the flowage and the adjacent sedge meadow. A bulletin board in the kiosk near headquarters is also being maintained. A deck adjacent Smoky Hill provides a staging area for groups on the western part of the property.
**Sub-problem 2:** Identify other wildlife-based properties (state and federal) having educational and interpretive programs that can be used as models for MWA programs.

**Review of Four Wisconsin State Wildlife Areas**

The thrust of this sub-problem was not intensive data collection, but rather of networking with professional educators who work at properties that have similar missions to the MWA. Through many contacts -- meetings, phone conversations, and e-mail correspondence -- with wildlife educators at the four Wisconsin wildlife areas studied, it became clear that managers at all of the properties struggle with economic and bureaucratic issues. These issues are exacerbated by the lack of a statewide strategic plan for the education and interpretation at state wildlife areas.

All of the Wisconsin study sites are in the process of upgrading facilities and programs, with varying degrees of administrative support from the Bureau of Wildlife Management. Sandhill Wildlife Area, for example, has excellent documentation of demand for programs, yet funding remains uncertain. Crex Meadows is offering programs and building a new visitor center with the support of an aggressive non-profit (Friends) organization. The same holds true for Navarino. Horicon has forged a partnership with other government agencies and private citizens to ensure that its education center can become a reality. From this, it would appear that securing private funding sources may be the only sure route to developing the educational and interpretive programs at Mead Wildlife Area.
Site Descriptions of Four Wisconsin Wildlife Areas

Crex Meadows

Established in 1945, Crex Meadows Wildlife Area is one of the largest (30,000 acres) and most heavily visited wildlife areas in Wisconsin. Located in northwest Wisconsin, in Burnett County, Crex Meadows has been managed intensively to restore and maintain healthy wildlife populations. In that respect, it is very similar to the Mead Wildlife Area. Developments at Crex Meadows include forty miles of interior roads, several observation areas, and a picnic rest area where camping is allowed during hunting season. Annual visitor use is estimated at more than 100,000.

In 1980, the first Interpretive Wildlife Biologist in Wisconsin was hired to develop and conduct a formal wildlife education program at Crex (Hoefler, 1999). The current wildlife education program at Crex provides guided tours, audio/visual programs, educator workshops, outdoor skills workshops, hunter and trapper education courses, an annual open house, and field experience with wildlife and wildlife management. About 95 percent of Crex Meadows visitors tour the property. Eighty to 100 wildlife education programs are given annually; students (K-12) comprise about sixty percent of this audience.

Crex Meadows, like the MWA, recently has faced the challenge of replacing a small, antiquated headquarters/visitor facility (Hoefler, 1999). This campaign dates to 1993, when the Friends of Crex signed a memorandum of understanding with the Wisconsin DNR allowing them to begin a $1.25 million fundraising campaign for the Crex Meadows Wildlife Education Center. This facility will include space for exhibits,
classrooms, an auditorium, restrooms, sales area, visitor contact area, offices, and work/storage space. Construction began in 2001 and is scheduled for completion in spring of 2002.

The Friends of Crex was established in 1984. Since then, this non-profit organization annually has provided hundreds of hours of volunteer assistance and thousands of dollars of financial support which has provided a budget for supplies and a program assistant/naturalist position. Volunteers pick up litter, staff the visitor center during spring and fall weekends, assist with wildlife surveys and host an annual Open House.

At a 15 March 2001 meeting, the Wildlife Education Committee discussed exhibit concepts and interpretive themes for the new Crex Meadows Wildlife Education Center. Jim Hoefler, the current wildlife educator/biologist at Crex, suggested three themes, which the MWA could use:

1) Wildlife needs to be managed.
2) Hunting has a role and hunters pay for management.
3) Habitat management is wildlife management.
Horicon Marsh

The 11,000-acre Horicon Marsh State Wildlife Area adjoins the 21,000-acre Horicon National Wildlife Refuge in southeast Wisconsin, in Dodge and Fond du Lac counties. Situated approximately 60-90 minutes from the majority of Wisconsin's human population, Horicon Marsh is used by more than 500,000 people annually. Using one full-time wildlife educator and one limited term employee, the DNR currently conducts about 200 interpretive programs at the marsh annually, reaching nearly 14,000 people. A public-private partnership between the State of Wisconsin, the National Park Service, the U.S. Fish and Wildlife Service, and citizens from local businesses and organizations has undertaken a $5.1 million capital campaign to build a Horicon Marsh International Education Center on Highway 28, between Horicon and Mayville.

Two documents associated with Horicon that should be considered as models include: *A Plan For The Education Program At The Horicon Marsh International Education Center* (Volkert, 1996) and *Wildlife Management Field Trip Guide To Horicon Marsh* (Judd et al., 1996). Chapter 6 in the education plan contains "education program staffing alternatives" that could be useful in planning staffing at the MWA. Similarly, the field trip guide could serve as a model for curriculum development at the MWA.

Navarino Wildlife Area

Located in northeast Wisconsin, approximately 30 miles west of Green Bay and 25 miles north of Appleton, the Navarino Wildlife Area consists of 14,500 acres devoted to wildlife and outdoor recreation. More than half of Navarino is wetland, with 15
flowages flooding 1,415 acres. A new nature center, completed in 1999, was wholly funded by and is operated by the Friends of Navarino Nature Center, a non-profit group organized in 1986. In February of 2000, a part-time naturalist (25 hours per week) was hired by the Friends to facilitate educational programs and coordinate volunteer naturalists.

The new facility at Navarino is considered "a starter nature center capable of being expanded as time, money, and use demands" (fundraising brochure). This one story, conventional frame structure now can accommodate up to 55 people. This simple facility provided very suitable space for a meeting of the DNR wildlife education committee in April 2000. During that all-day meeting, a feature that proved its utility was a kitchen adjacent and open to the main meeting room.

Sandhill

Sandhill Wildlife Area in southwestern Wood County, is a 9,150 acre facility entirely surrounded by a 9-foot tall, deer-proof fence. Studies on deer (*Odocoileus virginianus*) herd age-sex composition, harvest impacts, and deer census techniques have been conducted on Sandhill since 1962, when the property was acquired by the state. The Trumpeter Trail, a 14-mile auto tour with 17 interpretive waysides, has been a popular attraction at Sandhill for many years.

The Sandhill Outdoor Skills Center was established in 1991. This facility is staffed by one permanent full-time educator, one limited term employee, and volunteers. In 2000, staff had contact with 3,612 people who attended either an on-site program or workshop or an off-site presentation. According to the most recent annual report (Thiel
and Denter, 2001) demand for programs at Sandhill are currently greater than staff are able to meet.

The Outdoor Skills Center currently features a one-story building with a classroom for 60 people, a kitchen, bathrooms, office for two people, and a utility room. Plans for expansion include a 32-bedroom residential facility. Staffing for this program addition remains uncertain.

Table 4-3 School Use (K-12) of Four Wisconsin State Wildlife Areas in 2000

<table>
<thead>
<tr>
<th>Property</th>
<th>Total Students</th>
<th>Total Districts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crex Meadows</td>
<td>1,450</td>
<td>11</td>
</tr>
<tr>
<td>Horicon</td>
<td>2,461</td>
<td>20</td>
</tr>
<tr>
<td>Navarino</td>
<td>1,093</td>
<td>7</td>
</tr>
<tr>
<td>Sandhill</td>
<td>1,628</td>
<td>23</td>
</tr>
</tbody>
</table>
Review of Out-of-State Wildlife Properties

Visits to four out-of-state study sites provided many insights to successful facility and program design. Interesting components that could be models for the Mead are noted in the property summaries that follow. Each of the four sites was unique in its resources and in missions, but striking similarities were noted:

- Each has a pond, lake, or river within sight and very easy walking distance of its educational/interpretive buildings.
- Each has an aquarium with native fish species inside the building.
- Each property has full-time staff devoted to education.
- All remote properties have residential facilities and kitchens.
- All properties promote fishing and/or hunting opportunities for youth.

Table 4-4 School Use (K-12) of Four Wildlife Properties in Arkansas and Missouri in 2000

<table>
<thead>
<tr>
<th>Property</th>
<th>Total Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>August A. Busch</td>
<td>2,968</td>
</tr>
<tr>
<td>Ted Shanks</td>
<td>350</td>
</tr>
<tr>
<td>Cook's Lake</td>
<td>0</td>
</tr>
<tr>
<td>Grandview Prairie</td>
<td>1500</td>
</tr>
</tbody>
</table>
Site Descriptions of Four Out-of-State Wildlife Properties

August A. Busch Memorial Conservation Area

This 6,987-acre area is managed by the Missouri Department of Conservation for fish and wildlife habitat, outdoor recreation, and nature discovery. The Busch Area, located in St. Charles County, has 32 fishing lakes, an 8.7-mile auto tour, shooting ranges, and a regional administrative headquarters and educational/interpretive facility. This facility provides space for 36 full-time staff, including two full-time educators. Educational/interpretive components include a large exhibit hall, two classrooms, break rooms, storage rooms, restrooms, a vivarium, a kiosk, and a pavilion separate from the main building.

Within 30 miles of St. Louis, Missouri, the Busch Area is heavily used by organized groups as well as individuals. Programs keyed to state standards are offered year-round for grades K-8. One of the most popular events is the Kids Fishing Fair, a one-day event which attracts more than a thousand youth. Three lakes are reserved for fishing by school groups only. Wildlife viewing opportunities from the building itself are limited by heavy human activity. According to Rhonda K. Anderson, full-time educator, occasionally they can see some geese outside the classroom windows. Facility components that have proven extremely valuable include: 1) bathrooms accessible from outside and inside, 2) a 50-person classroom that can be divided into two smaller classroom, and 3) a kiosk/staging area adjacent the bus parking lot.
Ted Shanks Conservation Area

Located 18 miles south of Hannibal, Missouri, the Ted Shanks Conservation Area is one of Missouri's designated Watchable Wildlife sites. It comprises 6,705 acres, including 3,194 acres of bottomland hardwoods, 1,484 acres of marsh, and 575 acres of oxbow lakes adjacent the Mississippi and Salt rivers. Fishing and hunting are primary uses of this property, which is intensively managed as a waterfowl staging area. In these respects, the property has great similarity to the Mead Wildlife Area.

An 11.5-mile self-guided auto tour provides excellent viewing of waterfowl and wildlife management practices. An education facility contains a classroom, exhibit hall, and residential center. A main feature of this facility is the proximity to open water. Less than one-hundred yards from the windows of the classroom and the exhibit hall is a pond. Spotting scopes and binoculars on the window sills provide excellent viewing opportunities of waterfowl and wetland mammals.

Two full-time employees manage the property and operate the education center. This facility, more than an hour distant from St. Louis, is not used heavily (Table 4-6). According to Jim Wilson, education director for the Missouri Department of Conservation, the Ted Shanks area is a good example that the philosophy "if you build it, they will come" can be flawed.
Potlach Conservation Education Center at Cook's Lake

A three-way partnership between the U.S. Fish and Wildlife Service, the Arkansas Game and Fish Foundation, and the Arkansas Game and Fish Commission set the stage for the Potlach Conservation Education Center at Cook's Lake. The USFWS acquired this property in southeast Arkansas in 1999. The education center is funded by the Arkansas Game and Fish Foundation and operated by the Arkansas Game and Fish Commission.

This 1,850-acre property, formerly a private hunting estate, lies adjacent the 210,000-acre White River National Wildlife Refuge. The mission for the education center is "to provide experiential conservation education opportunities and appreciation of natural resources in a unique and internationally recognized bottomland hardwood forest ecosystem." As of spring 2001, the education program was still in the formative stage of development. The primary target audience is 5-6 grade youth who live in a 7-county area. Development plans include a 50-bedroom residential facility, a classroom, a universally-accessible fishing pier, and a floating wildlife-viewing blind. A main lodge, which was built in 1947 by the Lion Oil Company, will be used for administrative purposes and as a residential facility for teacher workshops and other adult users.

A curriculum was created by a team of 8 teachers with the property manager/educator. This curriculum is a model, not so much for its content, but for the team approach used for its creation.
Rick Evans Grandview Prairie Conservation Education Center

Located in Hempstead County in southwest Arkansas, this 4,885-acre property was purchased by the Arkansas Game and Fish Commission in 1997. It is a multi-use area providing a variety of recreational and education opportunities. The education center includes two public-use residential buildings, a classroom, a fishing pond for people under 16 or over 65, and a sporting clays range. Two noteworthy documents include the property master plan and a demographic analysis of potential market.

The master plan was written by a 14-member team that worked together for one week at the site. The team included: an independent facilitator, the property manager/educator for Grandview, the chief of education services division of the Arkansas Game and Fish Commission, a representative of the education team of the Missouri Department of Conservation, a member of the Nature Conservancy, a member of the Arkansas Natural Heritage Commission, and others. Of this process, education services division chief Marcus Kilburn said, "At the time, producing the plan the way we did was a real chore. But we're very glad now that we did it."

The demographic analysis of potential market was prepared by an independent consulting firm (Castin and Associates, 2000). The market area was defined as eight counties within a one-hour drive of the facility. As of August 2000, this area comprised 24,100 students K-12. The consulting team projected that "with proper marketing" the education center could cater up to 6000 students annually. Actual student numbers for 2000 is estimated at 1500.
Sub-problem 3: Identify the target audience for educational programs at the MWA and identify what factors would most compel teachers to use the MWA as a teaching site.

**Target audience summary**

Table 4-5 Student and teacher populations in 7 central Wisconsin public school districts in 2000-2001 school year

<table>
<thead>
<tr>
<th>Public School District</th>
<th>Total Students (Pre K-12)</th>
<th>Total Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auburndale</td>
<td>940</td>
<td>71</td>
</tr>
<tr>
<td>D. C. Everest</td>
<td>4,996</td>
<td>340</td>
</tr>
<tr>
<td>Marshfield</td>
<td>4,117</td>
<td>305</td>
</tr>
<tr>
<td>Mosinee</td>
<td>2,005</td>
<td>147</td>
</tr>
<tr>
<td>Stevens Point</td>
<td>8,154</td>
<td>610</td>
</tr>
<tr>
<td>Wausau</td>
<td>9,012</td>
<td>735</td>
</tr>
<tr>
<td>Wisconsin Rapids</td>
<td>6,100</td>
<td>480</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>35,312</strong></td>
<td><strong>2,688</strong></td>
</tr>
</tbody>
</table>

Information was obtained from each district in January 2000.

In the name of good public relations, superintendents of seven school districts within a 25-mile radius of the MWA were contacted in advance of any attempt to survey teachers. Three of seven superintendents were not supportive of this survey. Two thought that completing the survey would represent "unnecessary work" for teachers. One said that environmental education was "not a priority" in his district.

Ultimately, teachers from all seven school districts participated in a survey, but a non-random sampling method was used. This resulted in a self-selected sample that may have been biased, and thus the results of the teacher questionnaire cannot be
generalized to a larger audience. Table 4-6 compares the number of teachers who agreed to take the survey (the sample) to the number of teachers in the original survey population. From this, inferences can be made as to where future efforts at marketing and public relations are most needed.

Table 4-6 Comparison of self-selected sample to original survey population

<table>
<thead>
<tr>
<th>Public School District</th>
<th>Original survey population (OSP)</th>
<th>Teachers who received surveys</th>
<th>Sample as percent of OSP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auburndale</td>
<td>13</td>
<td>4</td>
<td>31%</td>
</tr>
<tr>
<td>D. C. Everest</td>
<td>64</td>
<td>13</td>
<td>17%</td>
</tr>
<tr>
<td>Marshfield</td>
<td>40</td>
<td>15</td>
<td>37%</td>
</tr>
<tr>
<td>Mosinee</td>
<td>19</td>
<td>4</td>
<td>21%</td>
</tr>
<tr>
<td>Stevens Point</td>
<td>75</td>
<td>32</td>
<td>43%</td>
</tr>
<tr>
<td>Wausau</td>
<td>69</td>
<td>9</td>
<td>13%</td>
</tr>
<tr>
<td>Wisconsin Rapids</td>
<td>66</td>
<td>52</td>
<td>79%</td>
</tr>
<tr>
<td>Totals</td>
<td>346</td>
<td>129</td>
<td>37%</td>
</tr>
</tbody>
</table>

The completed sample (Table 4-7) was defined as all teachers who returned a usable survey. Regardless of possible bias of the completed sample, the questionnaire yielded a database of 86 teachers who should definitely be kept informed of developments at MWA. This is not to say that those 86 teachers -- and their students -- are the primary target audience for MWA educational programs. They may represent a core of a primary audience, but it certainly seems reasonable that schools outside of a 25-mile radius could represent potential users of the MWA. For comparison, the primary audience of the Central Wisconsin Environmental Station, located near Amherst Junction,
is considered to be schools within a 45-mile radius. At Sandhill Wildlife Area, near Babcock, 50 percent of school users came from outside of a 45-mile radius during 2000!

**Table 4-7 Comparison of completed sample to sample**

<table>
<thead>
<tr>
<th>Public School District</th>
<th>Sample</th>
<th>Completed sample</th>
<th>Completed sample as percent of sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auburndale</td>
<td>4</td>
<td>3</td>
<td>75%</td>
</tr>
<tr>
<td>D. C. Everest</td>
<td>13</td>
<td>11</td>
<td>85%</td>
</tr>
<tr>
<td>Marshfield</td>
<td>15</td>
<td>10</td>
<td>66%</td>
</tr>
<tr>
<td>Mosinee</td>
<td>4</td>
<td>2</td>
<td>50%</td>
</tr>
<tr>
<td>Stevens Point</td>
<td>32</td>
<td>25</td>
<td>78%</td>
</tr>
<tr>
<td>Wausau</td>
<td>9</td>
<td>4</td>
<td>44%</td>
</tr>
<tr>
<td>Wisconsin Rapids</td>
<td>52</td>
<td>31</td>
<td>60%</td>
</tr>
<tr>
<td>Totals</td>
<td>129</td>
<td>86</td>
<td>66%</td>
</tr>
</tbody>
</table>

**Results of Teacher Survey**

The results reported in this section use the following symbols: N = number of respondents for the whole item, n = number of respondents for an option within an item. Each of the survey questions are reiterated. Data are embedded in answer spaces and reported in either a table or figure. Interpretation precedes the tables and figures.

**Question 1. Have you ever taken students to the Mead Wildlife Area (MWA)?**

N = 86

(n = 17) YES (Go to Question 3)  (n = 69) NO (Go to Question 2)
Table 4-8 shows the Mead Wildlife Area had been used as a field trip destination by 20 percent of the teachers who took this survey. Such a small number was the expected result. This was the original rationale for asking question number two.

### Table 4-8 Teachers who had led field trips to MWA

<table>
<thead>
<tr>
<th>Teaching Level</th>
<th>Completed sample</th>
<th>Had been to MWA</th>
<th>Percent of group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>41</td>
<td>6</td>
<td>14%</td>
</tr>
<tr>
<td>Middle</td>
<td>13</td>
<td>1</td>
<td>7%</td>
</tr>
<tr>
<td>High</td>
<td>32</td>
<td>10</td>
<td>31%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>86</strong></td>
<td><strong>17</strong></td>
<td><strong>20%</strong></td>
</tr>
</tbody>
</table>

**Question 2. Check reasons why you have not taken a field trip to MWA.**

\[N = 69\]

- (n = 5) Not related to the curriculum I teach.
- (n = 55) Unsure of opportunities available at MWA.
- (n = 11) Distance concerns.
- (n = 39) Budget concerns.
- (n = 7) Other (please explain)

As shown in Tables 4-9 and 4-10, this survey revealed ten reasons why teachers had not used the Mead as a teaching site. Some teachers indicated more than one reason. Two reasons stand out. Not knowing about the opportunities available" was selected by 80 percent of those teachers who had not led trips to MWA. More than 50 percent of the teachers who had not led trips to MWA reported "budget concerns" as a factor.

### Table 4-9 Reasons why teachers had not led field trips to MWA

<table>
<thead>
<tr>
<th></th>
<th>Not Related ...</th>
<th>Unsure of ...</th>
<th>Distance ...</th>
<th>Budget ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>1</td>
<td>30</td>
<td>7</td>
<td>21</td>
</tr>
<tr>
<td>Middle</td>
<td>2</td>
<td>8</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>High</td>
<td>2</td>
<td>17</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>5</strong></td>
<td><strong>55</strong></td>
<td><strong>11</strong></td>
<td><strong>39</strong></td>
</tr>
</tbody>
</table>
Table 4-10 Seven other reasons teachers had not led trips to MWA

<table>
<thead>
<tr>
<th>Count</th>
<th>Code</th>
<th>Explanation of Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Exist</td>
<td>Did not know the Mead Wildlife Area exists.</td>
</tr>
<tr>
<td>2</td>
<td>New</td>
<td>New or 1st-year teachers; lacked time to explore options.</td>
</tr>
<tr>
<td>2</td>
<td>Handling</td>
<td>Students too hard to handle or discipline.</td>
</tr>
<tr>
<td>1</td>
<td>Effort</td>
<td>Not worth the trouble, for what they get.</td>
</tr>
<tr>
<td>1</td>
<td>Thomp</td>
<td>Specific references to Tommy Thompson, former governor of WI.</td>
</tr>
<tr>
<td>1</td>
<td>Fac</td>
<td>Lack of facilities.</td>
</tr>
<tr>
<td>1</td>
<td>Q.E.O.</td>
<td>Qualified Economic Offer. (Refers to minimal pay increases)</td>
</tr>
</tbody>
</table>

Question 3. Do you take your students on field trips for environmental education elsewhere?  

(N = 86)

(n = 57) YES  (Please list where)

(n = 29) NO  (Please go to 5)

This question established an important fact: Teachers who participated in this survey do take their students on field trips. As shown in Table 4-11, two-thirds of the teachers who returned surveys indicated they took field trips. As shown in table 4-12, twenty-seven teachers reported they had used their local school forest as a teaching site. Twenty teachers reported using CWES. Sandhill Wildlife Area was the third most-popular field trip destination.

Table 4-11 Teachers who lead field trips to destinations other than MWA

<table>
<thead>
<tr>
<th>Teacher group</th>
<th>Number of teachers</th>
<th>Percent of teacher group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>34</td>
<td>83%</td>
</tr>
<tr>
<td>Middle</td>
<td>4</td>
<td>31%</td>
</tr>
<tr>
<td>High</td>
<td>19</td>
<td>59%</td>
</tr>
<tr>
<td>Total</td>
<td>57</td>
<td>66%</td>
</tr>
<tr>
<td>Count</td>
<td>Code</td>
<td>Explanation of Code</td>
</tr>
<tr>
<td>-------</td>
<td>--------------</td>
<td>--------------------------------------------------------------</td>
</tr>
<tr>
<td>27</td>
<td>School For</td>
<td>School forest</td>
</tr>
<tr>
<td>20</td>
<td>CWES</td>
<td>Central Wisconsin Environmental Center</td>
</tr>
<tr>
<td>9</td>
<td>Sandhill</td>
<td>Sandhill Outdoor Skills Center, Babcock WI</td>
</tr>
<tr>
<td>5</td>
<td>Trees For Tom</td>
<td>Trees For Tomorrow, Eagle River</td>
</tr>
<tr>
<td>5</td>
<td>ICF</td>
<td>International Crane Foundation</td>
</tr>
<tr>
<td>4</td>
<td>Sewage</td>
<td>Municipal Sewage Treatment Plant</td>
</tr>
<tr>
<td>3</td>
<td>Eau Claire Riv</td>
<td>Eau Claire River Nature Center</td>
</tr>
<tr>
<td>3</td>
<td>Upham</td>
<td>Camp Upham (Wisconsin Dells)</td>
</tr>
<tr>
<td>2</td>
<td>Landfill</td>
<td>Local landfill</td>
</tr>
<tr>
<td>2</td>
<td>Nepco</td>
<td>Nepco Lake, Wood County Parks</td>
</tr>
<tr>
<td>2</td>
<td>10-Mile</td>
<td>Ten Mile Creek (Buena Vista Marsh)</td>
</tr>
<tr>
<td>2</td>
<td>Iverson</td>
<td>Iverson Park, Stevens Point</td>
</tr>
<tr>
<td>1</td>
<td>Munic Well</td>
<td>Municipal well</td>
</tr>
<tr>
<td>1</td>
<td>Green Circle</td>
<td>Green Circle Trail, Stevens Point</td>
</tr>
<tr>
<td>1</td>
<td>Schmeeckle</td>
<td>Schmeeckle Reserve, UWSP</td>
</tr>
<tr>
<td>1</td>
<td>9-Mile</td>
<td>Nine Mile County Forest, Marathon County</td>
</tr>
<tr>
<td>1</td>
<td>Pigeon Lake</td>
<td>Pigeon Lake Field Station, UW-System</td>
</tr>
<tr>
<td>1</td>
<td>Wild Rose</td>
<td>Wild Rose Fish Hatchery</td>
</tr>
<tr>
<td>1</td>
<td>Eagle Cave</td>
<td>Eagle Cave</td>
</tr>
<tr>
<td>1</td>
<td>Mirror</td>
<td>Mirror Lake State Park</td>
</tr>
<tr>
<td>1</td>
<td>Back</td>
<td>Teacher's Own Backyard</td>
</tr>
<tr>
<td>1</td>
<td>Milw Zoo</td>
<td>Milwaukee County Zoo</td>
</tr>
<tr>
<td>1</td>
<td>Green Bay</td>
<td>Green Bay Zoo</td>
</tr>
<tr>
<td>1</td>
<td>Ag</td>
<td>UW Agricultural Research Station</td>
</tr>
<tr>
<td>1</td>
<td>Alex</td>
<td>Camp Alexander</td>
</tr>
<tr>
<td>1</td>
<td>Cran</td>
<td>Cranberry Marsh</td>
</tr>
<tr>
<td>1</td>
<td>Weston</td>
<td>Weston Power Plant</td>
</tr>
<tr>
<td>1</td>
<td>CNR</td>
<td>College of Natural Resources, UWSP</td>
</tr>
<tr>
<td>1</td>
<td>Treehaven</td>
<td>Treehaven Field Station, UWSP</td>
</tr>
<tr>
<td>1</td>
<td>Panama</td>
<td>Panama</td>
</tr>
<tr>
<td>1</td>
<td>WI-River</td>
<td>Wisconsin River (location not noted)</td>
</tr>
<tr>
<td>1</td>
<td>Roche-A-Cri</td>
<td>Roche-A-Cri State Park</td>
</tr>
<tr>
<td>1</td>
<td>Buena</td>
<td>Buena Vista Marsh</td>
</tr>
<tr>
<td>1</td>
<td>School Prairie</td>
<td>Outdoor teaching site at school</td>
</tr>
<tr>
<td>1</td>
<td>Devils</td>
<td>Devil's Lake State Park</td>
</tr>
<tr>
<td>1</td>
<td>Willow</td>
<td>Willow Flowage, Oneida County</td>
</tr>
<tr>
<td>1</td>
<td>Rib-River</td>
<td>Rib River</td>
</tr>
<tr>
<td>1</td>
<td>Water-Treat</td>
<td>Water Treatment Plant</td>
</tr>
<tr>
<td>1</td>
<td>Rib</td>
<td>Rib Mountain State Park</td>
</tr>
<tr>
<td>1</td>
<td>Jordan</td>
<td>Jordan Pond</td>
</tr>
</tbody>
</table>
Question 4. Total # field trips for environmental education you led this year: 
N= 86

Thirty-nine percent of the teachers reported they had led one or more field trips during the current year. This percentage is smaller than the response to the previous question. A possible explanation is that many teachers save field trips for spring. The timing of the survey probably influenced the answer. Table 4-13 compares numbers of field trips taken by elementary, middle, and high school teachers.

<table>
<thead>
<tr>
<th></th>
<th>Led one trip</th>
<th>Led two trips</th>
<th>Led three or more trips</th>
<th>Total who led trips</th>
<th>Percent that led trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>13</td>
<td>0</td>
<td>1</td>
<td>14</td>
<td>34%</td>
</tr>
<tr>
<td>Middle</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>4</td>
<td>31%</td>
</tr>
<tr>
<td>High</td>
<td>8</td>
<td>4</td>
<td>4</td>
<td>16</td>
<td>50%</td>
</tr>
</tbody>
</table>

Question 5. How often do you infuse or integrate environmental education into the curriculum you teach?  N = 84

(n = 0) Never
(n = 42) A few times a year
(n = 36) Weekly
(n = 6) Daily

Table 4-14 shows that 50 percent of the teachers who responded to this question said they infused or integrated EE into their classrooms at least "weekly". Another 50 percent said they integrated or infused EE "a few times a year." None of the teachers chose "never". It's unlikely that everyone who responded to the question would define environmental education the same way, which makes this question difficult to analyze. But the results provide a "feel" for the status of EE in these seven school districts.
Table 4-14 Frequency of infusion or integration of EE into curriculum taught

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>A few times a year</th>
<th>Weekly</th>
<th>Daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>0</td>
<td>28</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>Middle</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>High</td>
<td>0</td>
<td>10</td>
<td>18</td>
<td>3</td>
</tr>
<tr>
<td>Totals</td>
<td>0</td>
<td>42</td>
<td>36</td>
<td>6</td>
</tr>
</tbody>
</table>

Question 6. Scenario: You are deciding if you will take your class to the Mead Wildlife Area. Rank the components (below) as their availability would influence your decision. Use the following scale:

1 = Very important
2 = Somewhat important
3 = Not important

Exhibits (museum type)
Classroom
Self-guided trails
DNR educator
Outdoor skills instruction
Wildlife viewing
Equipment (binoculars, etc.)
Restrooms
Grade-based curriculum
Student research opportunity
Printed resources
Kitchen

Table 4-15 shows how teachers ranked the above 12 categories. The presence of a DNR educator on site was the category selected as "very important" by the most people (77 percent). Respectively, four other categories also received a "very important" rating by more than 50 percent of the teachers: Restroom (68 percent), outdoor skills instruction (60 percent), wildlife viewing (54 percent), curriculum (54 percent). By comparison, the availability of a classroom was selected as "very important" by 32 percent. Exhibits were selected as "very important" by 24 percent. Figures 4-1 illustrates five categories that were selected as "very important" by more than 50 percent of the teachers. Figure 4-2 illustrates the results for the other categories.
Figure 4-1 Factors ranked "very important" by majority of teachers

![Bar chart showing factors ranked very important by majority of teachers]

TABLE 4-15 Perceived importance of education program components, N = 90

<table>
<thead>
<tr>
<th>Component</th>
<th>Very important</th>
<th>Somewhat important</th>
<th>Not important</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNR educator</td>
<td>69</td>
<td>19</td>
<td>2</td>
</tr>
<tr>
<td>Restrooms</td>
<td>61</td>
<td>23</td>
<td>6</td>
</tr>
<tr>
<td>Outdoor skills</td>
<td>54</td>
<td>29</td>
<td>7</td>
</tr>
<tr>
<td>Wildlife viewing</td>
<td>49</td>
<td>36</td>
<td>5</td>
</tr>
<tr>
<td>Curriculum</td>
<td>49</td>
<td>22</td>
<td>19</td>
</tr>
<tr>
<td>Equipment</td>
<td>38</td>
<td>41</td>
<td>11</td>
</tr>
<tr>
<td>Student research</td>
<td>34</td>
<td>40</td>
<td>16</td>
</tr>
<tr>
<td>Self-guided trails</td>
<td>32</td>
<td>52</td>
<td>6</td>
</tr>
<tr>
<td>Classroom</td>
<td>29</td>
<td>47</td>
<td>14</td>
</tr>
<tr>
<td>Exhibits</td>
<td>22</td>
<td>50</td>
<td>18</td>
</tr>
<tr>
<td>Printed resources</td>
<td>17</td>
<td>48</td>
<td>25</td>
</tr>
<tr>
<td>Kitchen</td>
<td>4</td>
<td>20</td>
<td>66</td>
</tr>
</tbody>
</table>

1This number is higher than completed sample in Table 4-7. Data from four teachers who returned a questionnaire was not usable for other questions because three teachers are School Forest coordinators and one teaches Kindergarten. Their responses were included in the data here because of the general nature of this question.
Figure 4-2 Other factors potentially influencing teacher use of education facility at Mead Wildlife Area

Not all people are fans of data gathered with Likert-type questions. They find it hard to believe that people can envision a non-interval scale that could be interpreted the same by all respondents. This was the rationale for using the open-ended question that follows.

**Question 7. What would most compel you to bring a class to the Mead Wildlife Area?**

Table 4-19 shows twenty factors that would influence teachers to use the MWA for field trips. The two factors that seem to matter most to teachers were: 1) activities that correlate or integrate well to school curriculum and 2) the presence of a trained educator at the site. The third most-mentioned category was the presence of a suitable shelter.
Table 4-16 Factors that would most compel teachers to use MWA for field trips

<table>
<thead>
<tr>
<th>Count</th>
<th>Code</th>
<th>Explanation of code</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>Int</td>
<td>Activities that correlate or integrate well to school curriculum</td>
</tr>
<tr>
<td>27</td>
<td>Staff</td>
<td>Trained educators on site</td>
</tr>
<tr>
<td>13</td>
<td>Fac</td>
<td>Suitable facility; i.e. adequate shelter</td>
</tr>
<tr>
<td>9</td>
<td>Cost</td>
<td>Low cost: i.e. low registration or day fees</td>
</tr>
<tr>
<td>7</td>
<td>Wild</td>
<td>Wildlife Viewing Opportunities</td>
</tr>
<tr>
<td>7</td>
<td>Rs</td>
<td>Student Research Opportunities</td>
</tr>
<tr>
<td>5</td>
<td>Stand</td>
<td>Activities that correlate to Wisconsin State Academic Standards</td>
</tr>
<tr>
<td>4</td>
<td>Man</td>
<td>Management studies and/or participation in management activities</td>
</tr>
<tr>
<td>4</td>
<td>Hands</td>
<td>Hands-on activities</td>
</tr>
<tr>
<td>2</td>
<td>Out</td>
<td>Outdoor skills instruction (canoeing, hunting, etc.)</td>
</tr>
<tr>
<td>2</td>
<td>Ext</td>
<td>External factors beyond DNR control</td>
</tr>
<tr>
<td>2</td>
<td>Equip</td>
<td>Access to equipment such as water testing kits, canoes, etc.</td>
</tr>
<tr>
<td>2</td>
<td>Eco</td>
<td>Ecology-related studies</td>
</tr>
<tr>
<td>1</td>
<td>Pr</td>
<td>Public relations that provided knowledge of opportunity</td>
</tr>
<tr>
<td>1</td>
<td>Land-use</td>
<td>Land-use studies</td>
</tr>
<tr>
<td>1</td>
<td>Exhib</td>
<td>Exhibit hall</td>
</tr>
<tr>
<td>1</td>
<td>Uniq</td>
<td>Uniqueness of program; opportunities not available elsewhere</td>
</tr>
<tr>
<td>1</td>
<td>Exp</td>
<td>Experiential education</td>
</tr>
<tr>
<td>1</td>
<td>Lab</td>
<td>Water/soil testing lab</td>
</tr>
<tr>
<td>1</td>
<td>Support</td>
<td>Administrative support</td>
</tr>
</tbody>
</table>

Question 8. What curricular objectives would you like to address on a field trip to the Mead Wildlife Area?

The responses of the teachers fit into 29 categories shown in Table 4-17. Some teachers listed more than one objective. Forty-one teachers listed subjects such as succession, food webs, community interaction, etc., which were put in the general category of ecology. The second and third most-mentioned objectives fit into the categories of wetlands and wildlife. The fourth and fifth most-mentioned objectives fit into the categories of outdoor skills instruction and habitat management.
Table 4-17  Curricular objectives teachers would like to address on MWA field trips

<table>
<thead>
<tr>
<th>Count</th>
<th>Code</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td>Eco</td>
<td>Ecology</td>
</tr>
<tr>
<td>15</td>
<td>Wild</td>
<td>Wildlife</td>
</tr>
<tr>
<td>11</td>
<td>Wet</td>
<td>Wetlands</td>
</tr>
<tr>
<td>9</td>
<td>Out</td>
<td>Outdoor skills</td>
</tr>
<tr>
<td>7</td>
<td>Man</td>
<td>Habitat management</td>
</tr>
<tr>
<td>7</td>
<td>Id</td>
<td>Plant and animal identification</td>
</tr>
<tr>
<td>6</td>
<td>Stand</td>
<td>Wisconsin state standards</td>
</tr>
<tr>
<td>6</td>
<td>Water</td>
<td>Water studies</td>
</tr>
<tr>
<td>6</td>
<td>Rs</td>
<td>Research opportunities for students to work with scientists</td>
</tr>
<tr>
<td>5</td>
<td>Lab</td>
<td>Water and soil testing, hands-on</td>
</tr>
<tr>
<td>5</td>
<td>Issues</td>
<td>Environmental issues</td>
</tr>
<tr>
<td>4</td>
<td>Land-use</td>
<td>Land-use, man's effects on the landscape</td>
</tr>
<tr>
<td>4</td>
<td>Aware</td>
<td>Awareness and appreciation</td>
</tr>
<tr>
<td>4</td>
<td>Pollution</td>
<td>Pollution of natural resources</td>
</tr>
<tr>
<td>3</td>
<td>His</td>
<td>History, archeology, paleontology</td>
</tr>
<tr>
<td>3</td>
<td>EE</td>
<td>Environmental education</td>
</tr>
<tr>
<td>2</td>
<td>Unsure</td>
<td>Not sure</td>
</tr>
<tr>
<td>2</td>
<td>Endanger</td>
<td>Endangered resources</td>
</tr>
<tr>
<td>1</td>
<td>Curric</td>
<td>Curriculum unique to MWA</td>
</tr>
<tr>
<td>1</td>
<td>For</td>
<td>Forestry</td>
</tr>
<tr>
<td>1</td>
<td>Div</td>
<td>Diversity</td>
</tr>
<tr>
<td>1</td>
<td>Grass</td>
<td>Grasslands or prairie</td>
</tr>
<tr>
<td>1</td>
<td>Physics</td>
<td>Physics, solar energy</td>
</tr>
<tr>
<td>1</td>
<td>Climate</td>
<td>Climate</td>
</tr>
<tr>
<td>1</td>
<td>Equip</td>
<td>Equipment use, sampling kits, etc.</td>
</tr>
<tr>
<td>1</td>
<td>Rec</td>
<td>Recycling</td>
</tr>
<tr>
<td>1</td>
<td>Hands</td>
<td>Anything hands-on</td>
</tr>
<tr>
<td>1</td>
<td>Int</td>
<td>Studies integrated with school curriculum</td>
</tr>
<tr>
<td>1</td>
<td>Tax</td>
<td>Taxonomy of plants and animals</td>
</tr>
</tbody>
</table>
Sub-problem 4: Assess the views of the local community toward the proposed development at MWA, including the new building and its associated programs.

Table 4-18 summarizes the results of the four community-member focus groups. The focus groups involved twenty participants, and the transcripts of the audio-taped discussions were transcribed and hand-coded, producing 139 statements that fit into one or more of 18 categories. Appendix K contains all of the statements excepted from the full transcripts. The most-discussed category was "issues related to potential user numbers." More than half of the statements express concern that the building might not get enough use; other statements expressed more optimism. The issues of interpretation and education ranked second and third in terms of number of mentions in the discussion.

Table 4-18 Combined results of 4 focus groups: Issues and concerns community users have toward proposed development at MWA N = 20

<table>
<thead>
<tr>
<th>Category</th>
<th>Code</th>
<th>Number of mentions</th>
<th>Percentage of total mentions</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Users -- potential USE</td>
<td></td>
<td>19</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>Interpretation INT</td>
<td></td>
<td>18</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>Education program EDU</td>
<td></td>
<td>14</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Impact issues IMP</td>
<td></td>
<td>13</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Access issues ACC</td>
<td></td>
<td>11</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>Density of users DNS</td>
<td></td>
<td>11</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>Planning issues PLAN</td>
<td></td>
<td>8</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Promotion needs PROM</td>
<td></td>
<td>8</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Harmony issues HMY</td>
<td></td>
<td>6</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Hunting and fishing HUNT</td>
<td></td>
<td>6</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Staffing issues STF</td>
<td></td>
<td>6</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Economic issues ECON</td>
<td></td>
<td>4</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>External factors EXT</td>
<td></td>
<td>4</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Sustainability issues SUST</td>
<td></td>
<td>4</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Distance factors DIST</td>
<td></td>
<td>2</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Outdoor skills OUT</td>
<td></td>
<td>2</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Shelter issues SHEL</td>
<td></td>
<td>2</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Outreach needs RCH</td>
<td></td>
<td>1</td>
<td>.7</td>
<td>10</td>
</tr>
</tbody>
</table>
In general, the statements of the focus group participants revealed support in varying degrees for both educational and interpretive programs. Issues related to user density and impact ranked fourth and fifth. A number of participants very strongly expressed how much they enjoy the "wild" quality of the MWA. They have concerns that new developments could threaten their solitude and possibly impact the natural resource itself. Others voiced a willingness "to share" the resources -- especially in the name of education.

Table 4-19 summarizes the results of 11 user interviews. A transcript of their audio-taped interviews produced 19 statements that fit into one of five categories. Appendix L contains all of the statements excepted from the full transcript. In general, people thought the development was a good idea. Five people expressed strong support for the construction of a new facility DNR. Six people expressed enthusiasm for an education program. One person was concerned that interpretive signs can be intrusive.

Table 4-19 Results of brief interview of 11 property users: issues and concerns toward proposed development at MWA  N = 11

<table>
<thead>
<tr>
<th>Category</th>
<th>Code</th>
<th>Number of mentions</th>
<th>Percentage of total mentions</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education programs</td>
<td>EDU</td>
<td>6</td>
<td>32</td>
<td>1</td>
</tr>
<tr>
<td>Shelter issues</td>
<td>SHEL</td>
<td>5</td>
<td>26</td>
<td>2</td>
</tr>
<tr>
<td>Interpretation</td>
<td>INTP</td>
<td>3</td>
<td>16</td>
<td>3</td>
</tr>
<tr>
<td>Impact issues</td>
<td>IMP</td>
<td>3</td>
<td>16</td>
<td>3</td>
</tr>
<tr>
<td>Density of users</td>
<td>DNS</td>
<td>2</td>
<td>10</td>
<td>4</td>
</tr>
</tbody>
</table>
Summary of statements of focus groups and interviews

- Go ahead with the building. Better shelter is needed.
- Consider some modifications to the proposed building design.
- Don't degrade the resource itself.
- Don't clutter the Mead up with signs. Limit non-personal interpretation.
- Keep buses off dikes. Encourage foot travel.
- Conduct educational activities as close as possible to the new building.
- Incorporate some universally-accessible developments, such as a boardwalk and a nature trail with resting benches.
- Promote the new facility; actively recruit school users.
- Management, and the role hunters play in management, should be primary educational and interpretive themes.

Voluntary visitor registration

Table 4-20 shows the results of a voluntary register that was monitored for a year. Hikers and bikers together accounted for 40 percent of the users who registered. That's about the same as the birders and general wildlife viewers, who represented 43 percent of the users who registered.

Table 4-20 Types of uses recorded voluntarily by visitors at kiosk near MWA headquarters; July 2000 through June 2001

<table>
<thead>
<tr>
<th>Type of Use</th>
<th>Number of users</th>
<th>Percentage of users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biking</td>
<td>74</td>
<td>23</td>
</tr>
<tr>
<td>Bird watching</td>
<td>101</td>
<td>32</td>
</tr>
<tr>
<td>Hiking</td>
<td>55</td>
<td>17</td>
</tr>
<tr>
<td>Wildlife viewing</td>
<td>34</td>
<td>11</td>
</tr>
<tr>
<td>Other (non-hunting)</td>
<td>56</td>
<td>17</td>
</tr>
<tr>
<td>Totals</td>
<td>320</td>
<td>100 %</td>
</tr>
</tbody>
</table>
Chapter 5
Conclusions and Recommendations

This chapter is organized into two parts. It begins with a discussion of the overall results of the research. A set of specific recommendations to the Wisconsin DNR follows.

As this is written, the facility and its programs at the Mead Wildlife Area remain in the conceptual stage. Private funding still needs to be secured before construction of the proposed building begins. The Wisconsin DNR, the Friends of the Mead McMillan, Inc., and Senator Kevin Shibilski remain confident that this will be accomplished in the near future.

Overall, the results of this research project suggest that the community supports and a market exists for educational and interpretive programs at the George W. Mead Wildlife Area; however, it is not clear that construction of a new facility, alone, will provide for all visitors' needs and expectations. The primary recommendation to the Wisconsin DNR is to assure adequate staffing and funding to develop, promote, and facilitate educational programs and interpretive experiences at the Mead Wildlife Area.

Currently educational use of the MWA is very low. Less than 200 students (K-12) came to the MWA with organized school groups during the past 18 months. Yet the potential audience just within a radius of 25 miles includes 35,000 students (K-12) in seven public school districts. The data obtained from the teacher survey provides some insight to how school use of the MWA can be increased. One thing is very clear. If teachers are going to use the new facility at MWA, they will need to be informed of
opportunities available there. A public relations campaign with the seven immediate
school districts -- with the administrators and the teachers -- is one of the most important
things that needs to happen in the near future.

The teacher survey revealed other things that the DNR should consider. There is
an abundance of interesting sites for EE-related field trips in range of central Wisconsin
schools. Teachers identified 40 different sites they had used. Nearly 25 percent reported
they had taken students to CWES. Ten percent had visited Sandhill. Interestingly,
teachers had led field trips to sites as distant as Eagle River and Baraboo. The message
appears to be that teachers will find time and funds necessary to take their students on
field trips to sites they consider worthwhile. A review of visitor use records for Sandhill
demonstrates the same.

Considering all these other places where school groups could go, what would
compel teachers to use Mead as a teaching site? According to the survey, teachers would
highly value a DNR person to facilitate field experiences and deliver programs that
correlate with what they're teaching in their own classrooms. Teachers said a new-and-
 improved shelter would come in handy during inclement weather. But the program and
the people who run it are more important to teachers than the actual facility.

One of the survey questions revealed information on how much time teachers
spend on EE in their classrooms. Fifty percent of the teachers reported they infused or
integrated environmental education into their curriculums only "a few times a year."
Should the DNR care? The author thinks so. What good will come of the best-designed
field experiences in the world if in the classrooms where students spend 99 percent of
their school careers EE is not a priority?
The author believes that a DNR educator stationed at the Mead Wildlife Area could inspire teachers and help them integrate EE into their curriculum. The survey revealed 29 categories of curricular objectives that teachers would like to address on field trips to the MWA (Table 4-17). Reviewing these objectives should be part of curriculum development for the MWA curriculum. Attention should be directed to creating pre-trip and post-trip activities that teachers could use in their classrooms, thus increasing the amount of time per year they invest in EE.

The results of the community focus groups and interviews revealed that in general the public supports the building of an education center. Due to the small sample sizes and the non-random method used to recruit focus group members and interview property users, the results of this sub-problem cannot be generalized to represent the views of the public at large. On the other hand, if one defines "community" as "a group of people having common interests" (as opposed to a group of people living in the same locality), then the results may be significant, even if they are biased.

Input was sought from community members who could be considered "stakeholders" of the Mead Wildlife Area. Forty percent of the focus group participants, for example, reported they used the Mead "more than 10 times a year." Several people said they used it more than 30 days a year! These are people who obviously have a personal connection to the resource. Should the DNR take heed of their views and concerns? The author thinks so.

The primary word of advice from the community seems to be a cautionary one. They support education, and they support efforts to increase educational use of the MWA. They support the construction of a new building, and most people think it will get
used. Many people mentioned, however, that a building alone will not draw people. Especially in the beginning, users will have to be actively recruited. Will the DNR staff currently working there have time for this task, or will additional staff be hired? That seems to be one of the key questions on peoples' minds.

The issue of over-development of the Mead Wildlife Area is another. People who use the Mead now like it the way it is. They like having a big place to wander around and be alone when they want to. They have an aversion to signs. They worry about impacts that the proposed development will have on the property at large. "Don't degrade the resource" is their plea.

The people who took the time to record their visits on a simple register by the kiosk at the existing headquarters could be potential users of the new facility. It is interesting to note, while hunters are known to be the primary users of the Mead Wildlife Area, not a single person recorded "hunting" as the purpose of their trip in the register. One can only speculate why. Hunters tend to spread out over the property. By contrast, other users such as hikers and bikers may well congregate near the headquarters because that's where the Berkhahn trail begins. It may be true that some of the same people who bike and hike and bird watch in the non-hunting seasons do also hunt. But this cannot be determined from this register.

It seems reasonable to assume that at least some bikers, birders, and hikers would stop at the new headquarters building. They will likely be looking for information related to these activities, and at the same time, they also might value temporary shelter as well as use the restrooms and get a drink of water. The DNR should plan to accommodate their needs, even when the main part of the building is locked and no staff are present.
Recommendation 1: Suggestions on Building Design

A. Harmony of building with site

The DNR should:

- Analyze the proposed design in relation to the chosen site.

Rationale: Some people think the proposed building looks like an office building in a city. Ways that were suggested for making it blend in more with the surroundings included "building it more into the ground" and "roofing it with sod." In other words, how this building relates to the site should be reflected in the design. Every detail from the outline of the building, viewed from a distance, to what will it "feel" like when one walks in the door should be considered.

B. Provide for People

The DNR should:

- Increase office space.

Rationale: The DNR program statement for the building includes 288 assignable square feet (asf) that will accommodate four full-time employees, which is what the Mead has now. If additional wildlife technicians are hired, not to mention an educational staff, where will they do their indoor work? The 48 asf open landscape planned for limited term employees, interns, and graduate assistants will get crowded quickly. It is easy to envision staff spilling over into the break room and conference room. Why not plan ahead and build an extra office or two?
• Provide educational staff with work space having a window to the main driveway.
Rationale: Buses bringing organized school groups may arrive early, on time, or late. By having an office with a view to the driveway/parking area, a staff interpreter can work productively while keeping a lookout for the expected visitors.

• Add a kitchen.
Rationale: A striking omission in the building plan is a kitchen. All of the other facilities visited had kitchens. Kitchens facilitate meetings, workshops, and community events. Kitchens provide one of the most basic of human needs. Even if no visitors used the kitchen, the staff itself could greatly benefit from the availability of a kitchen.

• Add a side- or back-entry for students.
Rationale: When students come, where will they enter the building? A good option, one used at the Busch site in Missouri, is a "staging area" under an attached kiosk. A bus parking area could adjoin the kiosk that is now planned, and students could enter the classroom without traipsing through the lobby. This is especially important when kids come from the field with muddy boots.

• Provide outdoor entry to restrooms.
Rationale: How people access the restrooms is an important consideration. The option to enter from the outside would facilitate school use as well as after-hours and weekend use by recreational visitors, when the main building is locked up and staff is not present.

• Incorporate a wet lab into the classroom.
Rationale: Water studies represent one of the best hands-on activities available at Mead. Lab tables with lighted, dissecting microscopes and sinks facilitate this use.
C. Economy

The DNR should:

- Plan ahead to adapt and add to the structure.

Rationale: Uses for this building will evolve over time. Uses that might be justified in the future could include a hall for interpretive exhibits, work areas for additional staff, and residential facilities.

D. Sustainability

The DNR should consider:

- Using alternative energy sources, such as solar and wind power.
- Incorporating recycled materials into the building.
- Using alternatives to a standard septic system.

Rationale: These concepts reflect responsible environmental behavior -- the ultimate goal of environmental education. The building itself, in essence, becomes a teaching tool when people can see alternative systems in place.

Recommendation 2: Short-term Strategies

The following implementation timeline suggests a logical sequence of strategies and tasks that should be accomplished between September 2001 and June 2003. The goal should be to generate use of the new facility. Important tasks include networking with teachers and writing curriculum. Ideally, another full-time employee (an interpreter or educator) would be hired for this work, because the existing staff does not have time for additional tasks.
### Implementation Timeline for Renewing Educational Use of Mead Wildlife Area

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 2001</td>
<td>Open house (9 September) at MWA headquarters. Answer questions related to project developments.</td>
</tr>
<tr>
<td>Sept - Dec 2001</td>
<td>Create and distribute brochure or newsletter announcing status of educational opportunities. Establish personal contacts with teachers and administrators.</td>
</tr>
<tr>
<td>Sept - Dec 2001</td>
<td>Continue writing curriculum.</td>
</tr>
<tr>
<td>Sept - Dec 2001</td>
<td>Attend fundraising committee meetings.</td>
</tr>
<tr>
<td>Sept - Dec 2001</td>
<td>Establish program development funding needs.</td>
</tr>
<tr>
<td>Jan - May 2002</td>
<td>Schedule visits to teachers (Select from database of teachers who completed teacher questionnaire). Distribute copies of curriculum. Solicit teacher input.</td>
</tr>
<tr>
<td>Jan - May 2002</td>
<td>Continue writing curriculum.</td>
</tr>
<tr>
<td>Jan - May 2002</td>
<td>Begin grant writing to obtain funding for program development.</td>
</tr>
<tr>
<td>Sept - Dec 2002</td>
<td>Continue marketing program to teachers.</td>
</tr>
<tr>
<td>Sept - Dec 2002</td>
<td>Create new property brochures.</td>
</tr>
<tr>
<td>Sept - Dec 2002</td>
<td>Begin production of video to orient users to MWA.</td>
</tr>
<tr>
<td>Jan - Mar 2003</td>
<td>Complete video production.</td>
</tr>
<tr>
<td>Jan - Mar 2003</td>
<td>Continue marketing program to teachers.</td>
</tr>
<tr>
<td>April 2003</td>
<td>Construction of facility begins.</td>
</tr>
</tbody>
</table>
Recommendation 3: Goals for Curriculum Development

- Organize the curriculum according to the sub-goals of EE.
- Design lessons that correlate to Wisconsin Model Academic Standards
- Involve teachers in writing the curriculum. The curriculum will have greater utility if teachers have ownership.
- Design or recommend pre-trip and post-trip activities that could be conducted in school classrooms, by classroom teachers (not DNR educators) in advance of and following trips to the Mead. These activities are critical to reinforce learning from field experiences, and they could help teachers integrate EE into classrooms.
- Purchase copies of lesson/activity books referenced in the curriculum. Include these with the bound curriculums distributed to teachers.

Note: The author produced a sample curriculum, *Wetlands and Wildlife Curriculum*, which incorporates the above ideas. This unfinished product will require a lot of work to become a functional curriculum. Two sections, in particular, need expansion. The section "Preparing for Your Field Trip" can be modeled after the curriculum available for Horicon or Sandhill. The "Lessons" section needs a lot of expansion. Only one lesson plan "Cattail Community" (in the "Knowledge" section) has been completed.
Recommendation 4: Long-term Development Strategies

The Wisconsin DNR should:

- Develop a statewide strategic plan for providing education and interpretation at State Wildlife Areas in Wisconsin.

Rationale: The absence of such a plan is one of the primary obstacles all wildlife area managers face. The evolution of the new development at MWA is a case in point.

- Hire a full-time interpreter for the Mead Wildlife Area.

Rationale: A person is needed to promote, design, and facilitate educational/interpretive programs. This person would coordinate organized group activities and implement non-personal interpretive services. This person could supervise volunteer naturalists, graduate students, undergraduate interns, and high school students involved in independent studies at MWA.

The staff of the Mead Wildlife Area should:

- Develop support from seven immediate school districts.

Rationale: The research indicates that many teachers don't even know the Mead Wildlife Area exists, much less that a new education facility will be available. Also, teachers who have used the Mead in the past have not come in recent years. A public relations campaign is critical to the success of the project.

- Exchange ideas with educators at other state wildlife areas.

Rationale: In the absence of a statewide strategic plan for education and interpretation at State Wildlife Areas, networking with other DNR staff could save a lot of "reinventing
the wheel." For example, Crex Meadows is developing themes and exhibits for a new interpretive center. Duplicates or modifications of those exhibits could be created for MWA at the same time, resulting in cost savings for both properties. Even though the MWA plans do not include an exhibit hall, perhaps an exhibit or two would fit in the classroom or the lobby.

- Implement the Jones (1989) plan for a wetland boardwalk.

Note: The boardwalk should be as close as possible to the new education building.

- Partner with UWSP to provide opportunities for graduate student research as well as internships for undergraduate majors of environmental education and interpretation.

- Document visitor use with an annual report.

- Conduct periodic evaluation of visitor services.

Rationale: In the fields of education and interpretation, assessment and evaluation are valued as tools for developing successful programs and keeping programs working. The USFWS has set a good example. It recommends that wildlife refuge managers complete a formal visitor services evaluation once every five years. The MWA could use a modified version of the evaluation tool the USFWS uses (Appendix C).

- Establish an educational program based on biking.

Rationale: The Berkhahn bike trail is a great resource waiting to be tapped. A number of community members have objected to bus traffic on dikes. Bikes could be used effectively as a principal means of transportation as well as an educational experience. The bike trail is already there. Consideration should be given to obtaining a fleet of bicycles for student use. This represents an opportunity for a grant proposal.
- Create wildlife-viewing blinds.

Rationale: Although some wildlife viewing opportunities are available to groups or individuals walking on the dikes, the experience from a blind is much richer. From blinds, wildlife can be viewed up close. Blinds offer better opportunities to observe wildlife behavior (other than flying, swimming, or running away from the observer.) Blinds enhance opportunities for photography.

- Develop opportunities for high-school student research.

Rationale: Teachers want to give their students hands-on activities to work with DNR wildlife biologists. The High School Independent Studies program at Sandhill could be used as a model.

- Develop a canoeing program on the Little Eau Pleine River.

Rationale: The Little Eau Pleine River is another resource waiting to be tapped. Recreational canoeists use it now. Canoes would provide students great access for emergent plant studies and wildlife viewing. Canoes would provide an adventure activity that would be an incentive for high-school-age students. Obtaining a fleet of canoes is another opportunity for a grant proposal.

- Develop hunting opportunities for youth.

Rationale: Hunters use the Mead more than any other group. This property is largely funded by hunters' dollars. Hunters play a role in wildlife management. The DNR Strategic Action Plan for the Wildlife Education Program lists "developing and sponsoring wildlife recreational opportunities" as one responsibility of field wildlife education specialists.
Literature Cited


*Environmental education in Wisconsin: are we walking the talk?* (1997) Wisconsin Center for Environmental Education, University of Wisconsin, Stevens Point.

Falk, J. H. and Balling, J. D. (1982). *Improving the quality of single-visit field trips to the national zoological park: development of pre-trip materials and an assessment of learning and behavior*. Chesapeake Bay Center for Environmental Studies, Edgewater, MD.


U.S. Fish and Wildlife Service (2000). *Visitor services requirements handbook (draft)*. Denver Regional Office, CO.


Wisconsin DNR's Public Wildlife Recreation Land. (1998). Wisconsin Department of Natural Resources, Bureau of Wildlife Management, Madison, WI.

Wisconsin's model academic standards for environmental education. (1998). Wisconsin Department of Public Instruction, Madison, WI.


References


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Appendix A

Field trip evaluation form
George W. Mead Wildlife Area

Field Trip Evaluation

School Name: _______________  Evaluator: _______________  Date of trip: _______

1. Please rate how today's field trip met your expectations. Circle one number:

   1  2  3  4  5
   No expectations met  Some expectations met  All expectations met

2. Please describe what expectations, if any, were not met.

3. Do you have any general recommendations on how your experience could have been improved?

4. What kinds of post-trip activities will you do (or have you done) to reinforce today's field experience at the Mead Wildlife Area?

5. If a new education center (a building) were available at the Mead, how would you use it? In other words, what components could the building have that you would value most?
Appendix B

Educator listing for eight study sites
## Educators at Four Wisconsin State Wildlife Areas

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Addresses</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jim Hoefler</td>
<td>Northern Region</td>
<td>Crex Meadows P.O. Box 67 Grantsburg, WI 54840</td>
<td>715-463-2896</td>
</tr>
<tr>
<td></td>
<td>Wildlife Educator</td>
<td><a href="mailto:hoeflj@dnr.state.wi.us">hoeflj@dnr.state.wi.us</a></td>
<td></td>
</tr>
<tr>
<td>Bill Volkert</td>
<td>South Central Region</td>
<td>Horicon Service Center N7725 Hwy 28 Horicon, WI 53032</td>
<td>920-387-7877</td>
</tr>
<tr>
<td></td>
<td>Wildlife Educator</td>
<td><a href="mailto:volkew@dnr.state.wi.us">volkew@dnr.state.wi.us</a></td>
<td></td>
</tr>
<tr>
<td>Tim Ewing</td>
<td>Naturalist</td>
<td>Navarino Nature Center P.O. Box 606 Shawano, WI 54166</td>
<td>715-758-6999</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="mailto:Ewing@tds.net">Ewing@tds.net</a></td>
<td></td>
</tr>
<tr>
<td>Dick Thiel</td>
<td>West Central Region</td>
<td>Sandhill Skills Center P.O. Box 156 Babcock, WI 54413</td>
<td>715-884-2437</td>
</tr>
<tr>
<td></td>
<td>Wildlife Educator</td>
<td><a href="mailto:thielr@dnr.state.wi.us">thielr@dnr.state.wi.us</a></td>
<td></td>
</tr>
</tbody>
</table>

## Educators at Four Conservation Education Centers in Arkansas and Missouri

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Addresses</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don McSwain</td>
<td>Facility Manager</td>
<td>Potlach Conservation Education Center P.O. Box 509 Casscoe, AR 72026</td>
<td>870-241-3343</td>
</tr>
<tr>
<td>Linda Knighton</td>
<td>Facility Manager</td>
<td>Grandview Prairie 1685 CR 35N Columbus, AR 71831</td>
<td>870-983-2790</td>
</tr>
<tr>
<td>Rhonda Anderson</td>
<td>Interpretive Programs Supervisor</td>
<td>August A. Busch Area 2360 Highway D St. Charles, MO 63304</td>
<td>636-441-4554</td>
</tr>
<tr>
<td>Steve Hoepf</td>
<td>Facility Manger</td>
<td>Ted Shanks Area Box 13 Ashburn, MO 63343</td>
<td>573-754-6171</td>
</tr>
</tbody>
</table>
Appendix C

Visitor Services Evaluation Tool
Visitor Services Evaluation

Property ____________________ 97

Evaluated by ____________________  Date __________
Tour led by ____________________

I. Dimensions of Design

A. Harmony

1. Is building in harmony with site?

2. Unity in theme, materials

3. Style: modern, rustic, or other

4. My "feelings" about interior/exterior:

B. Provide for People

1. Did you know how to enter building?

2. Feel welcome?

3. What factors attract or detract?

4. Are needs of various audiences planned for?
   a. staff -- __ offices ___ break room ___ other ______
   b. visitors ___ theatre ___ classroom(s) ___ exhibit hall
   c. shared space -- ___ kitchen ___ other

5. Can people access information after hours? At night?

6. Any congestion, bottlenecks?
C. Economy

1. Can facility function with minimal staff?

2. Is structure adaptable and easily changed?

3. Is there flexible space?
   - Multi-purpose rooms
   - Storage area
   - "Staging" areas adjacent building (decks, kiosks, etc.)

D. Sustainability

1. Physical evidence facility is hard or easy to maintain?

2. Are energy/materials used in innovative ways?
   a. water
   b. heat
   c. lighting
   d. recycled materials
   e. other
II. VISITOR SERVICES

A. Visitor Services Plan

1. Does a public use plan or visitor services plan exist?

2. Is the current plan being implemented?

3. Does the plan call for continuous expansion of visitor services?

4. Does the property have a mission statement? Summarize.

5. Do the visitor services and program activities relate to the mission? How?

6. What are the 3 primary interpretive messages conveyed at this property?
   a. 
   b. 
   c. 

7. Does the visitor services plan outline what media or method are used to convey these messages?

8. Staffing Needs: Does the visitor services plan explore current and future staffing needs for implementation of the visitor services program?

9. Are the funding sources, or potential sources, outlined in the plan?

10. Is the plan comprehensive, covering all aspects of the visitor services program?
    a. fee programs
    b. universal accessibility
    c. use of dedicated areas (refuges, zones of no-entry, etc.)

11. Does the plan include a system for annual visitor services program evaluation?
B. Welcome and Orient Visitors

Entrance Signs

Kiosks

Boundary Signs

Directional Signs

Regulatory Information: Readily available?

Facility Maintenance: First impression?

Roads and Parking

Service Logos: prevalent through facility?

Visitor Hours:
   Check if posted on:
       ___ welcoming sign
       ___ kiosks
       ___ at the headquarters
       ___ elsewhere __________________

Visitor information beyond property boundaries:
   How are programs marketed?
       ___ Publications distributed to: __________________
       __________________

       ___ Special events

Visitor feedback system in place?
C. Provide Quality Hunting Experiences

1. Is hunting a priority use of the property?

2. What percentage of visitors, on an annual basis, are hunters?

3. Does the property have a step-down hunting program documentation?
   a. ____ stated policy that hunting must be allowed
   b. ____ does plan promote higher quality hunting experiences
   c. ____ special permits
      __ disabled
      __ youth hunts
   d. ____ are records kept documenting hunter use?
   e. ____ does staff regularly monitor and evaluate the hunt programs
   f. ____ documentation of effects hunting has on property resources
   g. ____ quotas needed
   j. ____ guiding allowed?
   h. ____ dogs allowed
   k. ____ hunter safety courses
   i. ____ off-road vehicles allowed?
   l. ____ are refuge-specific courses required to hunt?

4. Are staff designated to manage the hunt program?

5. Adequate staff to manage hunt program?

6. Signs:
   a. ____ standard boundary signs, clearly posted
   b. ____ directional signs to hunting areas
   c. ____ regulatory signs posted in key areas
      __ easy to understand
      __ worded in positive manner to garner compliance
      __ reasons given for various regulations

7. Roads:
   a. ____ are roads opened for hunters (roads that are not open during other times of
      year to other users.
   b. ____ adequate parking at hunter access points
   c. ____ are foot trails open to hunters
   d. ____ are other facilities (boat ramps, blinds, etc) well maintained
      __ if these facilities don’t exist, should they?

8. Publications:
   a. ____ are all related materials up-to-date
   b. ____ are they produced in accordance with dept. standards
   c. ____ are they accessible in key locations
   d. ____ have alternatives (audio tape, large print) been developed
   e. ____ are state regulations available
D. Provide Quality Wildlife Observation and Wildlife Photography Opportunities

1. Facilities
   a. ___ auto tour routes
   b. ___ observation towers ___ overlooks ___ blinds ___ trails ___ boardwalks
      Are these facilities safe, attractive, enjoyable, and universally accessible?
   c. ___ Are additional wildlife observation facilities warranted?

2. Information available
   a. ___ species check lists
   b. ___ brochures
   c. ___ interpretive signs
   d. ___ maps
   e. ___ books
   f. ___ wildlife viewing guides
   g. ___ watchable wildlife recreation symbols
   h. ___ movie
   i. ___ slide show
   j. ___ live interpretation
   k. ___ exhibits

3. Messages – Does the information provided communicate:
   a. ___ available wildlife observation opportunities
   b. ___ best viewing times
   c. ___ viewer etiquette,
   d. ___ ways to minimize impact on wildlife and habitat
   e. ___ access point information
   f. ___ regulations
   g. ___ management concerns

4. Events
   a. ___ Does staff host any special events to support wildlife observation and
      photography? (Please list event and date)

   b. ___ Are these events timed to provide visitors with opportunities to observe the
      property’s most important species at the time they are most visible?
   c. ___ Do these events provide opportunities to reinforce the relationships between
      wildlife, habitat, and management?
   d. ___ Are any partnerships involved in hosting an event? (Please list groups_
D. Wildlife Viewing . . . continued

5. Tools
   a. __ Are specialized tools, equipment provided to enable visitors to enjoy remote viewing opportunities that would otherwise be unavailable to them?
      __ spotting scopes
      __ binoculars
      __ remote cameras
      __ videos
      __ website

6. Habitat Enhancements
   a. __ Have habitat enhancements been undertaken to provide quality wildlife viewing and photography opportunities in more suitable and accessible locations? (Please describe)

7. Compatibility with Property Mission
   a. __ Are the opportunities provided for wildlife observation and photography compatible with the property’s overall mission? How?

   b. __ What means does refuge staff employ to balance all refuge uses and minimize the potential for conflicts?

8. Evaluation
   a. How is the quality of the wildlife observation and photography program evaluated?

   b. __ how frequently?
   c. __ who does it?
E. Environmental Education Program

1. Staff
   a. ___ Number of FTEs devoted to public use activity
      ___ those with college degrees in EE
   b. ___ Number of PTEs
      ___ those with college degrees in EE
   c. ___ Number of volunteers
      How are they trained?

2. Partnerships
   a. ___ colleges
   b. ___ universities
   c. ___ elderhostels

3. Primary and Secondary education contacts
   ___ Number of Public School districts
   ___ total number of teachers who have visited property with students
   ___ Number of Private Schools
   ___ Number of home-based educators

4. Have programs been developed for non-traditional and under-served audiences?
   ___ American Indians
   ___ Non-English speaking population
   ___ people with disabilities
   ___ other (please identify) ______________________________________

5. Curricula Development
   a. ___ Have site-specific curricula
   b. ___ Have educational standards-based curricula
      ___ State
      ___ Federal
   c. ___ Does curricula enable school-based educators to use site without assistance
      from on-site educators?
   d. ___ Is the curricula helpful to staff in addressing key resource issues?
   e. ___ Was the curriculum developed with assistance of educators who use it?
   f. ___ Was curriculum evaluated by these same educators? When?
      ___ front-end
      ___ formative
      ___ summative
E. Environmental Education program . . . continued

6. Education Materials
   a. ___ Library at site
   b. ___ Mobile “teaching trunks”
   c. ___ Field study equipment
   d. ___ Lab facility (e.g. wet lab, with microscopes, sinks, etc.)
   e. ___ Site specific print resources
      __ education posters
      __ field guides
      __ brochures
      __ other (describe) ____________________________

7. Education facilities and site development
   a. What facilities available
      __ classroom area ___ capacity
      __ learning pavilion
      __ other (describe) ____________________________

   b. ___ If facilities and/or sites exist, are they located to minimize disturbance to
      critical wildlife areas, while permitting quality educational experience?

   c. ___ If facilities do not exist and are not warranted, are classrooms or sites
      available offsite where partnerships may be formed? Where? ________________

   d. ___ Are facilities universally accessible?

8. Outreach Programs
   ___ Number off-site presentations by staff annually
   ___ Number of radio/t.v. broadcasts annually
   ___ Other opportunities
      __ State fairs
      __ County fairs
      __ Other ____________________
      ____________________
F. Interpretive Resources

1. Have key resource issues and interpretive themes been developed? (List 5)
   a.
   b.
   c.
   d.
   e.

2. What types of interpretive services are offered?
   a.  __ exhibit tours
   b.  __ guided walks
   c.  __ indoor lectures
   d.  __ outdoor naturalist talks (ampitheathre, campfire, etc.)

3. Interpretive Use (do not include school users)
   a.  __ estimate number of annual users
   b.  __ market study exists
   c.  __ evaluation occurs
       __ annually
       __ other

4. Visitor Center
   a.  __ staffed information desk in lobby  __ printed materials available here
   b.  __ exhibit hall
   c.  __ theatre with site-specific audio visual presentation

5. Other interpretive developments
   a.  __ waysides
   b.  __ kiosks

6. Has a portable exhibit been developed for outreach? __ yes __ no
Appendix D

Teacher Questionnaire
10 February 2001

Jim Farrell
P.O. Box 190
Auburndale, WI 54412

Dear Jim:

Thank you for your interest in education and for agreeing in advance to participate in the enclosed survey. With your assistance, the Wisconsin Department of Natural Resources and the College of Natural Resources (UWSP) endeavor to assess the environmental education needs of teachers and students in Central Wisconsin.

Your input will help us determine if area schools would use a new headquarters and educational facility that has been proposed for the George W. Mead Wildlife Area. Plans for the $775,000 facility include a classroom, reception area, and kiosk. We hope to offer a quality environmental education curriculum here and provide a staff educator to assist school users.

If you have any questions about the proposal or this survey, please feel free to contact us. We thank you very much for your participation in this important project.

Sincerely,

Randall P. Schwalbach
Graduate Research Assistant
College of Natural Resources
University of Wisconsin
Stevens Point, WI 54481
715-346-2025
Randall.P.Schwalbach@uswp.edu

Thomas I. Meier,
DNR Property Manager
Mead Wildlife Area
S2148 County Highway S
Milladore, WI 54454
715-457-6771
meiert@mail1.dnr.state.wi.us

P.S. For more information on the George W. Mead Wildlife Area, please see the other side of this letter. We hope to see you there!
Welcome to the George W. Mead Wildlife Area

Located in Marathon, Wood, and Portage Counties, the 27,653-acre George W. Mead Wildlife Area represents the third largest of Wisconsin's 155 state wildlife areas. Since its establishment in 1959, the property has been managed intensively as a waterfowl production area. Hunting and trapping are the two primary human uses of the property. Other recreational uses include biking, birding, canoeing, dog training, fishing, hiking, snowshoeing, and skiing.

The George W. Mead Wildlife Area has great potential as an educational resource. The Mead has extensive wetlands, including more than 4500 acres in 19 major flowage basins, with a large sedge meadow complex. There is also a large grassland community. These wetlands and grasslands provide habitat for a diversity of wildlife, including species not common in many places in Wisconsin. As communities, wetlands and grasslands have disappeared widely from the Wisconsin landscape since settlement; therefore, the resources available at the Mead Wildlife Area are all the more valuable.

*We hope to see you and your students out there!*
1. Have you ever taken students to the Mead Wildlife Area (MWA)?

   _YES_ (Go to Question 3)       _NO_ (Go to Question 2)

2. Check reasons why you have not taken a field trip to MWA.

   _ Not related to the curriculum I teach.
   _ Unsure of opportunities available at MWA.
   _ Distance concerns.
   _ Budget concerns.
   _ Other (please explain) __________________

   ________________________________

3. Do you take your students on field trips for environmental education elsewhere?

   _ YES_ (Please list where)       _NO_ (Please go to 5)

   ________________________________

4. Total # field trips for environmental education you led this year: _______
5. How often do you infuse or integrate environmental education into the curriculum you teach?

___ Never ___ A few times a year ___ Weekly ___ Daily

6. Scenario: You are deciding if you will take your class to the Mead Wildlife Area. Rank the components (below) as their availability would influence your decision. Use the following scale: 1 = Very important, 2 = Somewhat important, 3 = Not important

___ Exhibits (museum type) ___ Equipment (binoculars, etc.)
___ Classroom ___ Restrooms
___ Self-guided trails ___ Grade-based curriculum
___ DNR educator ___ Student research opportunities
___ Outdoor skills instruction ___ Printed resources
___ Wildlife viewing ___ Kitchen

7. What would most compel you to bring a class to the Mead Wildlife Area?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

8. What curricular objectives would you like to address on a field trip to the Mead Wildlife Area?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Thank you for completing this survey!

*Please return by 19 February in the SASE enclosed to: Randall P. Schwalbach, College of Natural Resources, University of Wisconsin, Stevens Point, WI 54481*
Appendix E

Forms of Consent
Consent Form

The school district of [Dist.

has reviewed the rationale for the teacher survey related to the research project of Randall P. Schwalbach, graduate student of environmental education and interpretation, University of Wisconsin, Stevens Point. Approval is granted to distribute the survey to teachers in this district and to use the results and the interpretation of that research in the master's thesis of the individual named above.

The researcher assures confidentiality of all responses contained in final reports, including a master's thesis; however, the data base of teachers' names and contact information will be released to the Wisconsin Department of Natural Resources, for the purpose of establishing a network for the successful implementation of the environmental education program at the George W. Mead Wildlife Area.

To assure the reliability of the study, other methodologies, such as focus groups and personal interviews, may be employed. The District also grants permission to the researcher to ask select teachers to participate in such other phases of the study.

Signature of District Authority [Signature] date 1/22/01

Signature of Witness [Signature] date 1/22/01

Please keep one copy for your records. Please return the other in the SASE provided to: Randall P. Schwalbach, Graduate Assistant, College of Natural Resources, University of Wisconsin, Stevens Point, WI 54481.
Consent Form

The school district of D.C. Everest has reviewed the rationale for the teacher survey related to the research project of Randall P. Schwalbach, graduate student of environmental education and interpretation, University of Wisconsin, Stevens Point. Approval is granted to distribute the survey to teachers in this district and to use the results and the interpretation of that research in the master's thesis of the individual named above.

The researcher assures confidentiality of all responses contained in final reports, including a master's thesis; however, the data base of teachers' names and contact information will be released to the Wisconsin Department of Natural Resources, for the purpose of establishing a network for the successful implementation of the environmental education program at the George W. Mead Wildlife Area.

To assure the reliability of the study, other methodologies, such as focus groups and personal interviews, may be employed. The District also grants permission to the researcher to ask select teachers to participate in such other phases of the study.

Signature of District Authority

Signature of Witness

Please keep one copy for your records. Please return the other in the SASE provided to: Randall P. Schwalbach, Graduate Assistant, College of Natural Resources, University of Wisconsin, Stevens Point, WI 54481.
Consent Form

The school district of Marshfield has reviewed the rationale for the teacher survey related to the research project of Randall P. Schwalbach, graduate student of environmental education and interpretation, University of Wisconsin, Stevens Point. Approval is granted to distribute the survey to teachers in this district and to use the results and the interpretation of that research in the master's thesis of the individual named above.

The researcher assures confidentiality of all responses contained in final reports, including a master's thesis; however, the data base of teachers' names and contact information will be released to the Wisconsin Department of Natural Resources, for the purpose of establishing a network for the successful implementation of the environmental education program at the George W. Mead Wildlife Area.

To assure the reliability of the study, other methodologies, such as focus groups and personal interviews, may be employed. The District also grants permission to the researcher to ask select teachers to participate in such other phases of the study.

Signature of District Authority _____________________________ date 1/23/01

Signature of Witness _____________________________ date __________

Please keep one copy for your records. Please return the other in the SASE provided to: Randall P. Schwalbach, Graduate Assistant, College of Natural Resources, University of Wisconsin, Stevens Point, WI 54481.
Consent Form

The school district of ___________________________ has reviewed the rationale for the teacher survey related to the research project of Randall P. Schwalbach, graduate student of environmental education and interpretation, University of Wisconsin, Stevens Point. Approval is granted to distribute the survey to teachers in this district and to use the results and the interpretation of that research in the master's thesis of the individual named above.

The researcher assures confidentiality of all responses contained in final reports, including a master's thesis; however, the data base of teachers' names and contact information will be released to the Wisconsin Department of Natural Resources, for the purpose of establishing a network for the successful implementation of the environmental education program at the George W. Mead Wildlife Area.

To assure the reliability of the study, other methodologies, such as focus groups and personal interviews, may be employed. The District also grants permission to the researcher to ask select teachers to participate in such other phases of the study.

Signature of District Authority ___________________________ date 1/23/01

Signature of Witness ___________________________ date 1/23/01

Please keep one copy for your records. Please return the other in the SASE provided to: Randall P. Schwalbach, Graduate Assistant, College of Natural Resources, University of Wisconsin, Stevens Point, WI 54481.
REQUEST TO CONDUCT RESEARCH AND/OR SURVEY INVOLVING THE PUBLIC SCHOOLS OF STEVENS POINT
(See reverse side for guidelines)

DATE: 24 January 2001

Signature of Professor: Michael Dow
Office Phone: 346-2076

Academic Department: College of Natural Resources
Office: 346-4185

School Building Requested

Department, Class, Teacher that will be involved: All district science teachers involved in environmental education

University students involved: (Lists may be attached) Randall P. Schwaback, graduate student of environmental education and interpretation

Proposal Title: Planning for new education center at the DNR operated George W. Mead wildfire Area, Teacher NEED survey

Purpose: The purpose of this research is to gather information from science teachers in the Stevens Point Area School District to plan for a new education center at the George W. Mead Wildfire Area.

Procedure Involved: A focus group has already been conducted. A mail survey will follow. The curriculum coordinator will recruit teachers to get their names in the survey pool. Surveys then will be mailed to teachers.

Use to be made of results: (Where? When? Who?) Included in thesis of student listed above.

Data base of teacher contacts will be released to DNR - especially to Tom Meier, property manager, Mead wildfire Area.

Approved: Dean of Professional Studies

Approved: Superintendent of Schools

Copy of results (date etc.) to be provided to the Stevens Point Superintendent of Schools.

Copy I - Professor, UWSP
II - Dean of Professional Studies
III - Superintendent of Schools
IV - Building Administrator, SPAPS

11/13/78

RECEIVED
JAN 29 2001
SUPERINTENDENT'S OFFICE
Consent Form

The school district of Wausau has reviewed the rationale for the teacher survey related to the research project of Randall P. Schwalbach, graduate student of environmental education and interpretation, University of Wisconsin, Stevens Point. Approval is granted to distribute the survey to teachers in this district and to use the results and the interpretation of that research in the master's thesis of the individual named above.

The researcher assures confidentiality of all responses contained in final reports, including a master's thesis; however, the data base of teachers' names and contact information will be released to the Wisconsin Department of Natural Resources, for the purpose of establishing a network for the successful implementation of the environmental education program at the George W. Mead Wildlife Area.

To assure the reliability of the study, other methodologies, such as focus groups and personal interviews, may be employed. The District also grants permission to the researcher to ask select teachers to participate in such other phases of the study.

Signature of District Authority

Date 1/23/01

Signature of Witness

Date 1/24/01

Please keep one copy for your records. Please return the other in the SASE provided to: Randall P. Schwalbach, Graduate Assistant, College of Natural Resources, University of Wisconsin, Stevens Point, WI 54481.
Consent Form

The school district of Wisconsin Rapids has reviewed the rationale for the teacher survey related to the research project of Randall P. Schwalbach, graduate student of environmental education and interpretation, University of Wisconsin, Stevens Point. Approval is granted to distribute the survey to teachers in this district and to use the results and the interpretation of that research in the master's thesis of the individual named above.

The researcher assures confidentiality of all responses contained in final reports, including a master's thesis; however, the data base of teachers' names and contact information will be released to the Wisconsin Department of Natural Resources, for the purpose of establishing a network for the successful implementation of the environmental education program at the George W. Mead Wildlife Area.

To assure the reliability of the study, other methodologies, such as focus groups and personal interviews, may be employed. The District also grants permission to the researcher to ask select teachers to participate in such other phases of the study.

Signature of District Authority: [Signature]

Signature of Witness: [Signature]

Please keep one copy for your records. Please return the other in the SASE provided to: Randall P. Schwalbach, Graduate Assistant, College of Natural Resources, University of Wisconsin, Stevens Point, WI 54481.
Appendix F

Focus Group Participant Questionnaire
Focus Group Participant Questionnaire

Thank you for your participation in this study group. The following information is requested in order to assess study group characteristics. You will not be identified personally, but this information will be included in a graduate thesis, scientific papers, and reports to the Wisconsin Department of Natural Resources.

1. Have you been to the George W. Mead Wildlife Area? ___ yes ___ no

2. About how many days per year do you visit the Mead Wildlife Area?
   ___ 1 ___ 2-5 ___ 6-10 ___ More than 10

3. How many years have you used the Mead? ____________

4. Have you hunted at the Mead? ___ yes ___ no

5. Check other activities you enjoy at the Mead:
   ___ hiking ___ photography
   ___ birding ___ skiing or snowshoeing
   ___ biking ___ berry picking
   ___ boating ___ dog training
   ___ other (please describe) ____________________________
   ____________________________
   ____________________________
Appendix G

Briefing for Focus Groups
Mead Wildlife Area -- Focus Group Briefing

The Department of Natural Resources proposes to construct a new headquarters and environmental education facility at the George W. Mead State Wildlife Area. The new facility will be constructed approximately 350 feet southeast of the existing pole building. This facility will provide customer service space, public rest rooms, employee office space, a classroom, and a kiosk. The proposed location is an open field and public access will be directly from County S on a new drive. The north half of the building would contain the administrative offices, and customer service, while the south portion would be devoted to educational programming.

Public input on this development is being sought from major user groups. Tonight’s meeting should take about 45 minutes. The aim of this focus group is to identify the views of the local community toward the development and its proposed uses. There are two main goals of this discussion. First, are there any objections to or concerns about the proposal? Second, how could the new facility serve the local community?

As the discussion moderator, I will ask a series of open-ended questions. We will spend about 5 minutes per question. I trust nobody will object to the audio taping of our discussion. Results will be confidential. No names will be released to the DNR or included in my thesis. Each panel member will be assigned a number, which will be used in the process of audio transcription and for the purpose of hand-coding the responses.

Are there any questions before we begin?
Appendix H

Field Trip Evaluation Results
Field Trip Evaluation Results

1) Please rate how today's field trip met your expectations.
Using Likert Scale: 1-5
1 = no expectations met  2 = a few expectations met  3 = some expectations met
4 = most expectations met  5 = all expectations met

Two teachers picked 4. Two teachers picked 5.

2) Please describe what expectations, if any, were not met.
"Due to bad weather, we couldn't do everything we'd planned to do."
"None. We really liked the experience."
"It would be nice to focus on one thing such as wetlands, and go into it in greater detail."
"Excellent job!"

3) Do you have any general recommendations on how your experience could have been improved?
"Since we got rained out, we could have used adequate shelter to continue teaching. But Tom was great at offering alternatives, and at least some shelter in the shop."
"We could have stayed longer. But that's not anything DNR can control."
"Next year we would like to begin at the headquarters and hike out to the rookery. This would give the students an opportunity to see more of the plants and species we could not see by riding the bus. For example, in the past we came upon turtles, snakes, and fed dragonflies to the spiders. You have to understand that these students come with excitement and energy, they need to wear some of that off in the beginning . . ."
"We appreciate the time and concern demonstrated to us."

4. What kinds of post-trip activities will you do (or have you done) to reinforce today's field experience at the Mead Wildlife Area?
"We listened to an off-site presentation by Tom Meier."
"The students created an imaginary animal. They drew it on paper, then explained their creation to the class."
"The students will report on one animal and one plant seen at Mead."
"They watched a PowerPoint program I created with photos taken on our field trip."
5. If a new education center (a building) were available at the Mead, how would you use it? In other words, what components could the building have that you would value most?

"We would use the shelter during foul weather."

"We would value three things. 1) Have an indoor area available to set up dissecting microscopes. 2) Bathrooms. 3) Having knowledgeable DNR staff to assist."

"I would use it for other classes as well as biology."

"Displays of plants and animals as seen at Mead, such as ducks, plants, amphibians, and reptiles. A model of a water control system as seen at Mead."
Appendix I

Notes of DNR staff interview
Notes of DNR staff interview

Mead Wildlife Area

3 August 2000

- Beth Arthur, wildlife technician
- Tony Geiger, wildlife technician/crew chief
- Brian Peters, wildlife technician

1) They remember the MWA being "a lot busier" with school visitors during the late 80s and early 90s.

2) They helped facilitate programs, but main presenter was Chris Cold, who was on staff at the time.

3) Education programs really "slowed down" when Chris Cold left to take a position as a wildlife educator for the Northern Region in 1993.

4) They were "promised" a new headquarters several times before now, so they're not "getting their hopes up too high" this time around.
Appendix J

Notes of Tom Meier interview
Notes of DNR staff interview
18 August 2000
Mead Wildlife Area

- Tom Meier, property manager

1) Tom tracked educational use of MWA in early 90s. Those records were "turned in to Madison" in 1996. No records available on site, except Tom could check his personal calendar of last several year to determine outreach programs.

2) Tom is particularly interested in learning what other wildlife properties have for facilities, educators, etc. Idea of survey or tours of study sites was discussed.

3) Prior to 1993, Tom Meier was stationed at MWA full-time, and there were 6 permanent, full-time equivalent, positions at Mead. But then Chris Cold transferred to Ladysmith, and mechanic Tom Weber's position was restructured. Tom himself was assigned other duties and worked part-time out of Marathon County office in Wausau. In August 2000 Tom was reassigned as full-time property manager of MWA; this is not a supervisory position.

4) Tom does not anticipate much time in his schedule to devote to education in future.

5) Yet education is "still a priority" with Tom. He gets many requests for off-site presentations. But this will change now, because new Marathon County wildlife biologist, Rick Weide, is supposed to assume duty for off-site presentations on wildlife in general. Tom will still do presentations directly related to Mead.

6) The Jones (1989) master plan was submitted with the 91-93 budget request for a new facility at MWA. But the plan was "pushed back" because of developments taking place at the Outdoor Skills Center at Sandhill.
Appendix K

Excerpts from focus group transcripts
Excerpts from focus group transcripts

Issues related to property access

- Do we want to have motor vehicles back in there on a regular basis? You know then there's perhaps the need to upgrade the surface of some of these roads. Do we need that? (2.1.3)

- I think there's enough access points the way it is now. If we leave it, don't have any more roads or driving through, like auto tours, you know there's enough spots we can access if we feel we want to get away from the crowds, that you can walk two or three miles. (2.2.3)

- What do they get if they come there? Well, if part of what they get is motor access into the heart of the Mead, well maybe we don't want that. (2.1.3)

- Though you don't just want school groups to come to the headquarters and sit in the classroom. They have to see something there. I assume if they come in the spring they could see migrating birds. And they gotta get out on the dikes to see some of that. (2.3.4)

- But there are ways to do that. For instance, whatever that flowage is right across the entrance from the headquarters building. Now if you drive back that road, yea there's a parking lot. Now presumably you could drive back there on those dikes a long, long ways. But there's always a chain across the road. If you get out of your bus in that parking lot and walk a couple hundred yards, you're already in a position to see lots of stuff out in those flowages. (2.1.4)

- I don't like the idea of buses on the dikes. (2.3.4)

- I think [riding a bus down a dike] it's just an "ooh" and "ah" experience, with no interpretation, no instruction. That's ridiculous. (3.5.8)

- From a logistics point of view, they're going to have to ride a bus to the various sites. You can't expect school kids to hike 5 or 10 miles back in. If there's a wildlife viewing spot not near the center, how else would classes get to it? (3.4.8)

- I think the Mead is so vast, that to get to these specific points, where a lot of the birds are, you almost have to have the buses. (3.3.8)

- I think the Little Eau Pleine River needs to be cleaned out so canoeists can get down it. Also, maybe little walking bridges across the Eau Pleine so you wouldn't have to come out by the powerhouse but just down by the bridge. A couple little crossing bridges would facilitate hiking. That would give more options for routes they could take. (4.1.1)
I would say no [to bus traffic on dikes]. They’re [dikes] small. They’re perforated every year by badgers and digging animals of all kinds. You’re simply going to run into more maintenance and more problems out there (with buses), disrupting nesting birds. There’s a lot of turtle eggs buried on the dike and I don’t think you could fit that in ecologically at all. Right now, everyone walks. There is some wheelchair accessible hunting and fishing, but I don’t think it should support motorized traffic. It’s O.K. for an occasional service vehicle, but right now that’s all that’s needed. (4.1.2)

Issues related to user density

I personally enjoy the Mead because it offers me great solitude. I go there to bird, and to be alone. I go there many different seasons of the year. To me, it’s almost like a wilderness. I wouldn’t want to see any development that attracts more people to the Mead. (1.1.1)

I can see Marya’s concerns are valid because you don’t want a hoard of people in here and using it to its detriment – or overusing it. (1.4.2)

One of the concerns is that now this nice wildlife area would be opened up to more use and somehow it would lose its appeal. I think that you have got to at some point -- and there is a fine line between too much and too little use . . . So yes I don’t want to see it overrun with people, but we still need to make people aware that there is this nice place out here . . . . I think you can still do that without creating a circus atmosphere. (1.6.3)

Many users probably wouldn't venture out very far on the property. I think there'd still be the opportunity for people who want solitude, who want to take a long walk and not see anybody, that opportunity would still be there. (1.3.3)

If you get the building with the educational space and bring classes out there during the day, that's not going to interfere with people who want the solitude in the evening. People are working all day and coming out in the evening. School groups aren't there then. It's a big enough property to meet the needs of everybody. (1.5.3)

Mead is so big that if you want to go somewhere, walk the dikes birdwatching, it takes a long, long time to get all the way around. So, on the one hand it doesn't seem like there's a real big threat of over-use back in the property unless they drive buses back on the dikes, do stuff like that. (2.1.3)

... you know there's enough spots we can access if we feel we want to get away from the crowds, that you can walk two or three miles. I don't think it will ever be over-used. (2.2.3)
Almost all my usage is by boat, by canoe or kayak. And the reason I go is because there's no one out there. I've never seen another kayak back in the backwaters. So if you started publicizing canoe routes, I wouldn't be happy. (2.3.7)

When it comes to just walking these trails and seeing the amount of wildlife you can see – and again it's so vast, if you want to get away from people, all you do is keep walking. (3.3.9)

I think especially, if it's related to education and to develop people's appreciation for the uniqueness of that area. Then I'd gladly share it. (3.6.9)

Some concern of people I think would be the increased traffic, you know, for usage of trails, and demands on the Eau Pleine River and things like that. On the other hand when you have something like this more people do come out there and are willing to support it and contribute to the acquisition of new add-on lands in the area and things like that. So you've got several things going there at the same time. (4.1.1)

**Issues related to distance factors/travel times**

- You don't need to drive an hour and then have a questionable curriculum when you've already got a curriculum established [at other places]. (1.3.2)

- I would just think that the Mead is a little on the remote side. I mean it is centrally located between Marshfield, Wausau, and Point. But in our case (Wisconsin Waterfowl) it would be a little tough to draw us there from the north side of Wausau. It's somewhat remote. My family would get use out of it, but we're very local to that area. (3.3.2)

**Issues related to economy**

- If the classroom thing doesn't go, if the education thing doesn't go, they'll find some other use for that building. I think it's worth building, even if there isn't a lot of educational use for it. It's good to have it there, and hope that it does get used. But if it doesn't, it's not a waste of money, that's for sure... The administrative side could expand out there. (2.3.6)

- And I know that the clubs I'm in would certainly put money for the displays and whatever needs there are. We've given money to Sandhill for TV's, projectors, those kinds of things. There's no problem getting money for those kinds of things from the conservation organizations. (3.6.5)

- Will the state of Wisconsin, year in and year out, make funds available to operate and maintain this facility, or is it after a while going to fall in disrepair? I guess there'd have to be a real commitment, just to keep the building maintained, water lawns... I don't know, is it going to be kind of rustic looking, paved parking lots or
gravel? There's lots of questions just like that. Any ideas as to what an annual budget would be for those kinds of things? What kind of budget does Sandhill have? (3.4.6)

- I think that there's a ton of programs that could be developed. But if we put all the money into the building, we won't have money to put into other things, like the trails, after the building is built. (3.3.7)

**Issues related to education program**

- As the education center is concerned, I wouldn't take my sixth grade students to the Mead. For them, and for the rewards available, there's too much walking involved. (1.1.1)

- I know when I was a young kid and growing up in Minneapolis some of the small nature preserves really awakened an awareness in me of the wild and wild places. And I think that where this place is situated it would be a travesty to lose that on people. (1.6.3)

- I think that the education component is the most important. And it looks to me it should be through the schools. The high schools and the junior high. (2.3.1)

- But is it too late to do anything? I mean, suppose that you find there really is no need or desire for such a facility, or the education part of such a facility. Then what? (2.1.2)

- First of all, we're going to have to see some research on what makes this site unique for education. The area is surrounded by excellent school forests. Wausau has one of the finest programs in the state. Marshfield is another. When we have our own individual sites where we're doing this kind of work, what makes this site unique that we would want to come up here instead of to our own school forests? I believe you're going to have to do some serious research on programs that will enhance what they're doing at the school forest programs. Otherwise, this is not going to be built. This will not go as an administrative headquarters. The program that's here should complement the upland forestry programs and the outdoor type of programs that are going on at our school forests. This is a unique site and it could be very supportive of what's going on in the school forests. But to replicate the school forest programs is not worth it. (3.5.1)

- I think one of the things that it does do is there is a real active management plan. And I know a lot of the school forest programs have some management plans, but not like this. And this is done properly. The other big thing is definitely the size of the wetlands that are being managed and of course the Native American history of use of the area is quite unique. (3.6.1)
I can speak from my experience at the Marshfield School Forest and putting some time in there, that area is strictly an upland area. There are no wetlands there. This would be a completely different area than what the Marshfield School Forest is. (3.2.1)

The other opportunities are, as we've already discussed, for students to become involved in research. There is just some fantastic opportunity there with prairie chickens. That's unique to the area. (3.6.2)

But I think I would be willing to sacrifice the space, certainly, if we could do environmental education for the youth. Because if we don't educate the next generation, it doesn't matter. We're going to lose a lot more than just that space, because most kids don't grow up with any understanding or feeling for what these areas do and what their value is. Because they don't value (wetlands) they'll develop them and put them to other uses. So I think we need all the education we can get. So the question is do we need it there, and will be duplicating any other (facilities)? (3.6.4)

I was thinking that what we need to do is educate the non-hunter about the importance of hunting and the role hunters play in the management of wildlife ... But I think it can play a role in educating people and helping them develop a land ethic. But I think we ought to emphasize the role of management. There's a lot of misunderstanding about the need for management. (3.6.5)

I think especially, if it's related to education and to develop people's appreciation for the uniqueness of that area. Then I'd gladly share it. What we have to worry about are the people who are going to become taxpayers and decision-makers in the future. Unless we really start doing a better job than what we're doing, we're going to be in real big trouble. So I think we need this development, and I think it will be used. (3.6.9)

I mean it's an excellent educational opportunity. The prairie chickens, the cranes - at one time they considered that a stopover site for the whooping cranes. Which is looked at in Wisconsin, it's a possible place where they could rest. So it's important. It's one of the biggest contiguous wetland areas in this several-county area. So it's important for some types of wildlife. (4.1.1)

The building itself needs to offer educational opportunities specific to that property. That means it would need a wet lab and a curriculum established to accommodate wetland exploration and study. (4.2.1)

I think with the increased cost of natural gas and LP gas which might be out there, it might be a very good opportunity for using solar energy and using that for
educational purposes as well, because then you could help explain solar energy to the kids and spur more interest in that as well as in the environmental issues. (4.4.2)

**Issues related to external factors**

- I'll tell you something a teacher I know told me. She says that when you talk about EE, she doesn't have time for that because she doesn't have time to teach the math and reading and other stuff. I don't how our building is going to solve that problem, but that's something we should probably think about. (1.2.1)

- And I know a lot of other concerns are that the school districts don't have the money to be sending buses out, and there might be other things out there causing them not to come. (1.5.4)

- I know that Stevens Point has its own school forest with not just a woods. But its got an educational center out there. A fairly new building. Stevens Point schools for one reason or other don't go to the Mead anymore. Partly they may not have the money to do it. Probably the lack of staff -- I'm not sure what it is. (2.1.2)

- The only question is: How to get the school groups there, with the budgetary problems they're having now. (3.6.6)

**Issues related to harmony of proposed building with site**

- I think it's a good idea to have a building that fits in the landscape and would not be too obtrusive. (1.4.1)

- My general concern is what the building is going to look like. What impact will it have on the site? How high is this thing going to be? Could it be built into the ground, maybe even have, like, a sod roof? (1.2.1)

- It looks like an office building... Compared to the buildings down the street, yes. Looks like earth tone brick. It appears there will be a lot of windows in the visitor part. (3.4.6)

- I think it looks very appropriate for the site. (3.6.6)

- I think that we should look at developing a more environmentally friendly structure. That structure (proposed) might complement a town facility. But I think if we're looking for a building for the Mead setting and we want to show environmental educators what can be done to accommodate a more environmentally-friendly building we should consider solar energy, wind-powered generators – sustainability and harmony with site. Something that would be built into the ground and have windows exposed to the wetland areas. (4.2.1)
I live not to far from the Mead on Lake DuBay and I'd like to make a comment about the potential headquarters. I agree that it would be nice to have it blend it with the surroundings and have a south-facing roof so that you could take advantage of solar power. (4.4.2)

**Issues related to hunting**

- Can't this building be something more? I mean, I don't know where you went on this, but the fact of the matter is this is still basically a consumptive property. I mean I don't mind kids coming out there to get a feel for the green space, but you got to get these kids interested in hunting and fishing. Some people don't like bloodletting, well, that's too bad. I don't know if hunter safety is something that would work. (1.3.1)

- So maybe the Mead can serve a different function to show kids a lot of different aspects that they wouldn't have access to. This is a hunting property. That's the main user group. I don't think you should lose sight of that. I think there are people in this room who support that. This property was built on hunters dollars. (1.3.2)

- But I'd like to see something for the hunting community. Maybe even something for college students. But there's got to be something for hunters. (1.3.2)

- Well, you got hunter safety classes now, I don't know where they happen now. But that could be held out there. (2.3.2)

- You're going to hope to attract the non-consumer of wildlife, the non-consumer of birds and fish. To get that person involved in the water, land, and air ethic that we're trying to promote in Wisconsin. That's the kind of person we want to get out here. We don't want people to come here to be trained to hunt deer. (3.5.5)

- I think of any group, hunters put their money where their mouth is. But I would like to attract the non-hunter there because it is so unique. And I think 90 percent of the time, when there aren't hunting seasons going on, then the uses are very compatible. But I would really hate to see a situation develop where this would turn into an anti-hunting type area where people who want to walk trails wouldn't want hunters here. (3.6.5)

**Issues related to potential impact on resource**

- And so you would have to plan your educational activities so it didn't too much impact the wild nature of the Mead. (2.1.3)

- You don't want to have kids just sitting in classroom. On the other hand, you want to keep the place from being over-developed. (2.1.4)
I don't like the idea of buses on the dikes. (2.3.4)

On the development of Mead in general I think it shouldn't be developed very much more. Ah, I think it's not used because so many people don't know about it or where it is. When you say Mead, people say, "Oh, where's that?" You probably would get a lot more use if there were more signs along Hwy 10. But I think it's just fine the way it is now. The people that care about it and want to use it, they know where it is. (2.3.6)

... whatever kinds of educational uses are planned for that and they recruit participants for should be carefully structured in such a way that they don't have a negative impact on the interior parts of the reserve. (2.1.6)

We're saying, don't change the reserve, just bump up the numbers in the educational program. Don't degrade it. (2.3.6)

Don't degrade it in order to make it more attractive for people who might come and use it for programs. (2.1.6)

But let's face it, this is not a pristine area. It's wood lots and dikes. It's not a pristine wilderness where you don't want to cut down a single tree. And it's been well used over the years for various purposes. (3.5.3)

Although I completely agree with environmental education and need for places for people to get away, I'd like to express concern for the species that live in the area. How is this development going to affect them? If there's an increase in use overall, how is that going to effect them. (3.7.8)

As far as it affecting the wildlife, I'm not a biologist, but I don't think minimal traffic affects them. When I walk the dikes, especially in the spring, the geese and ducks swim right up to us. (3.3.8)

The roads that are there now are small and not very intrusive. So I don't think this would be impacted that much. (4.1.1)

I would say no [to bus traffic on dikes]. They're small. They're perforated every year by badgers and digging animals of all kinds. You're simply going to run into more maintenance and more problems out there (with buses), disrupting nesting birds. There's a lot of turtle eggs buried on the dike and I don't think you could fit that in ecologically at all. Right now, everyone walks. There is some wheelchair accessible hunting and fishing, but I don't think it should support motorized traffic. It's O.K. for an occasional service vehicle, but right now that's all that's needed. (4.1.2)
I also agree with them that there should be some self-guided trail, but most of the property should remain as pristine as possible with no signs, no particular tour. (4.4.2)

Issues related to interpretation

I think it’s a good idea to have a building . . . that would be good for school groups to come and have a nature center that you can walk through with self-guided exhibits and things like that. (1.4.1)

Probably some non-personal interpretation could be done. (1.3.2)

You know, I can see year-round programs, once a week, for a variety of topics. From hunter safety to botany, stuff like that . . . Maybe like weekend programs, one day a week. You’d have enough topics I think to fill a whole year with. (2.2.2)

. . . [someone] told me, she feels very strongly there ought not to be any programs, any education or interpretive programs out at the Mead. That it should just be wild, let it alone, we got enough such programs around at Sandhill, at Central Wisconsin Environmental Center. (2.1.3)

I'm not opposed to [signs] those. I think there's some signs on Smoky Hill that are just enough to give you a little history. So it's not intrusive. (2.3.4)

I don't mind them. There might be an interesting bird sitting on that sign. (2.1.4)

I'd like to see maps, pointing out spots of interest. (2.2.4)

Well from my standpoint being a birder, [I need] a good quality bird checklist. I know they had one but I looked it over and it really needs to be updated. Also, kind of like directions to hot spots. (2.2.5)

Keep an information board there, of species seen. The staff could run it. I'd like to know when the pelicans are seen there. How many, and where they were. I could get the information there, then go [see wildlife]. (2.2.5)

One of the things I would be concerned with is I think there needs to be interpretive displays or at least room for interpretive displays and an area for showing videos and films. Perhaps that can be built into the reception area. And I think there’s enough interest in the conservation groups around here -- the Audubon Society and Izaak Walton League and all the others -- that we could pick up the cost of the materials if the space is there for them. (3.6.2)

We are becoming more and more urbanized in Wisconsin and the opportunity for people to simply go to a place like this away from urban areas are sliding by us. I believe that people would renew their psyches by just coming to a place like this,
following a trail, sitting down on a bench, and just watching . . . How are we going
to display this uniqueness? . . . They're going to have to put interpretive teachers in
there if they're going to staff it. And we have to develop places out there —
boardwalks, rest areas, signs. (3.5.3)

- I was thinking that what we need to do is educate the non-hunter about the
importance of hunting and the role hunters play in the management of wildlife . . .
But I think it can play a role in educating people and helping them develop a land
ethic. But I think we ought to emphasize the role of management. There's a lot of
misunderstanding about the need for management. (3.6.5)

- One of the things Beth Jones talked about in her thesis, was micro-observation
areas. Boardwalks, benches, lookout points, for the handicapped and elderly for
people who just want to go out and sit and watch nature. She thought that should be
one of the first things the Mead should do. Certainly we have nothing like that now.
But imagine yourself in a wheelchair, or on crutches, or with a heart condition, and
you just want to get out of the house and go to a place where you can just sit.
What's wrong with that? These people pay taxes their whole damn lives. These
people are going to go home, tell others what they saw, and they'll become
supporters of this program. And at a very minimal cost. Whatever we do should
incorporate some of that. (3.5.8)

- You know the Audubon club did the signs on the bike trail. Since you can't get off
the loop, the signs are superfluous. (4.1.2)

- Having never been there, I can say that I would appreciate at least one guided trail I
could spend 30 minutes to an hour on. To get a feel for the place. That would be
fine for me. I would leave most of it natural. But if I'm just going there blind, I
don't know anything about it. (4.3.2)

- Well I agree, you need something for people who have never been there. Also,
trails in the areas where the sandhill cranes are. Birds that people can use their
binoculars. (4.1.2)

- You need to provide maps. I think that site right around where the headquarters is
now is the most heavily used. Sections to the east and west, I would expect, are the
least-used. I think if you could distribute trips to the other areas, that would be
pretty interesting. (4.1.2)

- I also agree with them that there should be some self-guided trail, but most of the
property should remain as pristine as possible with no signs, no particular tour. But
at least a part of it would be nice to have some guided tour. (4.4.2)
Issues related to outdoor skills instruction

- Well, actually Barry suggested one of the things the Friends could do is put on waterfowl identification class. That's a potential use. How do you get those kids involved? That's not an easy task. I don't think you're going to have a duplication of efforts over Sandhill. I think Dick's (Dick Thiel) got his own little niche down there. (1.3.2)

- If the market would bear it, I don't care. But right now, it should not be our primary goal. (3.5.5)

Issues related to outreach

- You have to go into classrooms and maybe give a sort of primer and then bring them out. But who is going to do that on a constant basis? If you expect your wildlife manager do to this, I think that's a poor use of his time. (1.3.2)

Issues related to planning

- I think it needs to be really well planned before they try to make us do a lot of fundraising. It needs to be really well thought-out before that happens. (1.4.1)

- There should be a good plan, whatever that would be. The DNR would need a good idea, and I would also hope that citizens would have some time to give their input. (1.4.2)

- ... perhaps the building was decided upon before the programs were decided upon. Ideally it should be the other way around. It should be designed for the programs. That should force the construction of the building. So it's important to make sure that there is a program that is going to be utilized. (2.3.1)

- ... there is no plan for what kind of use will be made of the building, or who is going to staff it. So, the main word seems to be a cautionary one. (2.1.6)

- Before you build this, look at the center at Poynette. The barracks, the kitchen, etc. It’s not a big area. I think you should hook up with the Poynette staff and see what has been successful. Because this is not going to be in competition with Poynette, because it’s too far. This will be no threat to Poynette. I believe we should emulate their programs. How far are we going to go? Are we going to put in a barracks? A
kitchen? How we going to serve the audience? ... I think you've got the cart before the horse. (3.5.7)

- I think I would say too, we've got a shell, but no programs outlined. (3.3.7)
- And will they be planning overnight stays? (3.4.8)
- Maybe you need to survey the school districts. Especially the parochial districts that don’t have the school forests. (3.6.9)

**Issues related to promotion**

- ... it would be important for a Mead staff educator to come into our classroom and talk about what's available. If teachers aren't aware of what's there how are they going to use it? That would be critical initially. (1.5.3)
- As people come out and the word spreads to other classes, that's when you're going to get more people going through. (1.5.4)
- So it's going to take someone who is going to work pretty aggressively with the school districts... to make personal contacts with individual teachers and get them to bring students out there. (2.3.1)
- Yea, even if there were not a DNR staff person who ran the education programs, they would need some sort of staff person to do what John says to, in effect, recruit people to come out. (2.1.1)
- you're gonna have to have someone go out and recruit people to come. And maybe you have to entice them a little bit. (2.1.3)
- I think that would be a great goal if you could draw the people to it. I think that some of the preserves (he means refuges at the Mead) with waterfowl and raptors and things that are going on year-round are really amazing. Most people don’t know this exists, to tell you the truth. (3.3.3)
- So I think if you build it and you staff it, you do need to have one good staff member solely devoted to this. It’s way too much to expect the staff that they currently have to try to manage that interpretive center. Now they could try to do it, but it won’t get the use that it will if there’s someone there promoting it, certainly. (3.6.4)
- I live on the south side of Lake DuBay. I can ride my bike to the Mead in 15 minutes. And I talk to most of my neighbors, and they ask me: What and where is the Mead? (3.3.9)
Issues related to adequate shelter

• I’d like to have the school kids have a place where they know if the weather's bad they can still have a facility to enjoy some outdoor education – even though it’s inside, but on the property. (1.6.1)

• ...we still need to make people aware that there is this nice place out here. And that there is also a facility for them to come to, a place to come to when the weather is bad. A place for sportsmen and outdoors groups to have their meetings. (1.6.3)

Issues related to staffing

• You have to go into classrooms and maybe give a sort of primer and then bring them out. But who is going to do that on a constant basis? If you expect your wildlife manager do to this, I think that’s a poor use of his time. Unless there's no goals out there, I mean, then his job is just being left to go. What are they planning? Or is that a position that needs to be done full time? The DNR works catch as catch can. If they find someone who can do the interpretation, the education, then they put a building up. And what, it collects dust? Or maybe is it just used a couple of months in the spring? I see a new building just making more work for the staff that they've got. There's not going to be any new staff out there. So that's a real challenge. (1.3.2)

• If there's going to be an education center out there, with a classroom, then the question is: Who's going to staff it? (2.1.1)

• ...even if there were not a DNR staff person who ran the education programs, they would need some sort of staff person ... to facilitate things for them once they are there. It's not too conceivable that you could just have an empty space that was just available for people to come out and just completely independently do their own thing. Although maybe that would work in some cases. (2.1.1)

• So I think if you build it and you staff it, you do need to have one good staff member solely devoted to this. It’s way too much to expect the staff that they currently have to try to manage that interpretive center. Now they could try to do it, but it won’t get the use that it will if there’s someone there promoting it, certainly. (3.6.4)

• Are the Friends of the Mead interested? Would they help staff the visitor center? Could they offer a behind the desk type person? (3.3.4)

• Or it could also be funded for grad students through WEEB grants to do that kind of work. The WEEB grants will not pay for staff, but they will pay for research. (3.5.6)
Issues related to sustainability

- I understand it’s [the building] going to face north. Have the designers considered energy efficiency? Will it have enough windows to allow for natural heat and light? (1.2.1)

- It certainly looks like a low maintenance exterior, which is better than a log structure, or cedar, which would require almost annual maintenance. (3.4.7)

- I think that we should look at developing a more environmentally friendly structure. That structure (proposed) might complement a town facility. But I think if we’re looking for a building for the Mead setting and we want to show environmental educators what can be done to accommodate a more environmentally-friendly building we should consider solar energy, wind-powered generators – sustainability and harmony with site. Something that would be built into the ground and have windows exposed to the wetland areas. (4.2.1)

- I agree that it would be nice to have it blend it with the surroundings and have a south-facing roof so that you could take advantage of solar power. I have it on my house and I think it would be cost-effective at least in water usage – that pays back very quickly. For space heating, that’s another possibility. I think with the increased cost of natural gas and LP gas which might be out there, it might be a very good opportunity for using solar energy and using that for educational purposes as well, because then you could help explain solar energy to the kids and spur more interest in that as well as in the environmental issues. (4.4.2)

Issues related to potential user numbers

- My big concern with a new facility out here is that it’s not going to get used. (1.6.1)

- But on the other hand I think its unrealistic to think that all the surrounding school districts are going to use this property. Tom [Meier] says they are. But I don’t think they’re going to. Mosinee's looking at their own school forest building. There's Boston School Forest in Point. They got Schmeeckle; they got CWES. I mean there's a lot of facilities that are already used. You don't need to drive an hour and then have a questionable curriculum when you've already got a curriculum established [at other places]. (1.3.2)

- There used to be a lot of school users, right? (1.4.2)

- And I think that Tom (Meier) believes that he can get those numbers back without a plan and I'm suggesting that's unrealistic. Cheryl (Brimmer) teaches in Mosinee, and that would be a real hike for her, not to mention the coordination. But with all the other facilities available, I don't know. Maybe Tom can do it, but it's going to take a lot of work. (1.3.2)
- And what, it collects dust? Or maybe is it just used a couple of months in the spring? (1.3.2)

- Well, if we're going to put a building up and it isn't going to attract more users, then I don't think we should build it? You bet a building will attract attention... That building will be a failure if it doesn't attract 5 to 10 times as many people that come to the headquarters building now. It better get used. (1.3.3)

- I think it would be a success if you could start small and build. I wouldn't expect you'd have 1800 the first year. But to build up to that would be great. So maybe 500 would be a good goal. But I'm not sure. (1.5.4)

- It would start small and grow. If you're going to put a staff person out there, you're going to have to build in time for them to develop a program. You can't put a staff person out there and say, We're going to put 1800 students through this year and we want 2500 next year. If you only have 100 coming now, the first year you have a program out there, you might get 300. The year after you might be at 500. As people come out and the word spreads to other classes, that's when you're going to get more people going through. But it's going to take three, four years to build that. (1.5.4)

- I think also, how often is it going to be used? Year-round? Or just during the school year? Is it more for adults? Or for students and adults? (2.2.1)

- Is there any indication that school districts in the area would use it? (2.1.1)

- I can see Wausau bird club using it... for our meetings, you know we could have one or two meetings a year down there. (2.2.2-3)

- It's got to be year-round use. And in the summer months, with the schools out, that's going to be more difficult. (3.4.2)

- The program will have to be sold on multiple, mass use of facility. You're talking about spending serious money to build a center and unless we can justify it by use, it's not going to happen. (3.5.2)

- I'm curious if there would be any passerby-use of programs and the visitor center. I see a lot of the same people walking the trails or riding bike trails. Every once in a while you run into some new people. But most of the people I see are from Marshfield, Point, southern Marathon County, you know that area. That are coming very locally to the Mead Area... And I'd think that you would want this to become something that would draw people from around the state, and I'm not so sure about that. (3.3.2-3)

- I kind of feel it's like what the movie said, if you build it, they will come. I mean look at Sandhill before they built that center. I mean, there was some use. They had
an auto tour and so forth. But it was nothing compared to what they have now. And they’re developing the Crex area. Well the Crex area is a lot more isolated than the Mead. The nearest large city to them is the Twin Cities. (3.6.4)

- Are we going to be able to attract the school districts in, or will it be a weekend type thing? I really think this is a jewel that the vast majority of the public in Wisconsin do not know is up there. And I think you would get tremendous use of that area if it was something that would be worthwhile for students. I’m very much in favor of it. (3.6.5)

- Who is the audience? (3.5.7)

- Is there a real need for this building? Is there a community wide need for something like this? Or is this just a politician’s pipe dream, to point at and say, “I built that.” If there’s not a need for this facility, then it’s not going to get used . . . I’d hate to think that the state would construct a white elephant and this thing would be underused. (3.4.7)

- I think especially, if it’s related to education and to develop people’s appreciation for the uniqueness of that area. Then I’d gladly share it. What we have to worry about are the people who are going to become taxpayers and decision-makers in the future. Unless we really start doing a better job than what we’re doing, we’re going to be in real big trouble. So I think we need this development, and I think it will be used. (3.6.9)
Appendix L

Excerpts from user interviews
Statements excerpted from user interviews

Note: (The numeric code in the parenthesis after each statement identifies interviewee number and page number of transcript where statement occurs.)

Issues related to shelter

- The building they have is too small. It’s old; it’s drafty. It has had rodent problems. There’s thought they may have had health problems because the mouse infestation was so bad. (1.1)

- The building they have here is not suitable for groups or presentations. (6.1)

- I think it’s a good idea to have some sort of facility here. What they have I don’t think is adequate for groups or kids. It would be nice to have a little learning center. (7.1)

- I’d like to see developed a nature center that services adults and children with nature program, from the pre-school during the day and also school groups. (10.2)

- I think you should go ahead and build the resource center and the larger DNR office. (11.2)

Issues related to education program

- It’s a great idea. Just for a place for kids to come out and learn more about the environment, just to learn what’s available here. It’s just nice for kids to be outdoors. (2.1)

- It is important to teach kids that you have an area that is kept natural ... Get em young. (3.1)

- I’d like to see developed a nature center that services adults and children with nature program, from the pre-school during the day and also school groups. (10.2)

- And I think a wildlife center for children would be excellent. (9.1)

- I think that would be really cool. If I had a field trip, I’d want to come out here with my friends and stuff. It would be a good opportunity to leave school. (8.1)

- Anything that gets people into the outdoors and educates them on conservation aspects is a good thing. (5.1)
Issues related to interpretation

- Formal or informal, for families. I think it’s great. I’ve stopped and read the little bulletin board by the entry. (2.1)

- I’d would hate to see the place so civilized and tame though that they still weren’t getting a sense of what it’s like to be away from it all. So I hope they keep in mind that lack of signage is an advantage and educational trails can best be created by offering a booklet that can go with the trail without having signs. Signs just make the place seem like their school. The reason I like it here is because there aren’t signs. (9.1)

- Anything that gets people into the outdoors and educates them on conservation aspects is a good thing.

Issues related to user density

- I enjoy the wilderness. (4.1)

- Well, it’s a big property. A lot of people use it. (6.1)

Issues related to impact

- You don’t have lots of buildings. You don’t have to worry about polluting the water. (3.1)

- I’d would hate to see the place so civilized and tame though that they still weren’t getting a sense of what it’s like to be away from it all. So I hope they keep in mind that lack of signage is an advantage and educational trails can best be created by offering a booklet that can go with the trail without having signs. Signs just make the place seem like their school. The reason I like it here is because there aren’t signs. (9.1)

- It seems that you have enough land out here to do it without damaging the wetlands. As long as you don’t damage the wetlands I don’t really have a problem with it. (11.2)
Appendix M

Site plan of new office/classroom
MEAD SITE PLAN
NEW OFFICE/CLASSROOM

SCALE 1" = 80'

June 2000