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FINAL REPORT

CULTURAL RESOURCES INVENTORY FOR
A SMALL-BOAT HARBOR AT TREMPLEAU,
TREMPLEAU COUNTY, WISCONSIN

Prepared for
U. S. ARMY CORPS OF ENGINEERS, ST. PAUL DISTRICT
(Contract NO. DACW37-81-M-2653)

Submitted by

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La Crosse, Wisconsin

May, 1982

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This report presents the results of a cultural resources survey for a proposed Corps of Engineers small-boat harbor at Lock and Dam no. 6 near Trempealeau, Wisconsin. Previous work near the proposed location, as well as background research indicated the area had been greatly disturbed during construction of Lock and Dam no. 6 in the early 1930's. The visual surface inspection found no evidence of historic or archaeological resources, and confirmed the disturbed nature of the area. It is concluded that no cultural resources will be endangered by the construction of a small-boat harbor.					
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ABSTRACT

This report presents the results of a cultural resources survey for a proposed Corps of Engineers small-boat harbor at Lock and Dam No. 6 near Trempealeau, Wisconsin. Previous work near the proposed location, as well as background research indicated the area had been greatly disturbed during the construction of Lock and Dam No. 6 in the early 1930's. The visual surface inspection found no evidence of historic or archaeological resources, and confirmed the disturbed nature of the area. Consequently, it is concluded that no cultural resources will be endangered by the construction of a small-boat harbor at that location.

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INTRODUCTION

This report presents the results of a cultural resources Phase I reconnaissance survey conducted by the Center for Research Archaeology (La Crosse) for the U.S. Corps of Engineers, St. Paul District. The survey area consisted of a proposed small-boat harbor project at Lock and Dam No. 6 (Sec. 27, T18N,R9W) at Trempealeau, Wisconsin (Figure 1). The purpose of the cultural resources inventory was to locate any cultural resources which might be eligible for nomination to the National Register of Historic Places, and which would be adversely impacted by the proposed construction.

Three proposed harbor areas for this project were to be investigated. The proposed construction includes dredging of the water areas, and facilities such as docking, walkways and utilities along the shoreline. The proposed small-boat harbor would contain surface area for 100 boat-slips. The maneuvering and berthing areas would be dredged to a total seven foot depth. The entrance channel would have a depth of six feet below normal pool level and a width of 150 feet. The harbor facilities also would include an access road, launching ramp, parking and service areas, and sanitary facilities (COE, 1981:2.04).

The cultural resources survey was conducted November 2, 1981 by the field director, crew supervisor and three crew members under the general supervision of the principal investigator, Dr. James P. Gallagher. Project records will be housed in the Archaeology Laboratory at the University of Wisconsin at La Crosse.

PHYSICAL SETTING

This area of the Western Uplands of Wisconsin is known as the "Driftless Area" because it was not covered by Pleistocene glaciation. Nonetheless, glaciation greatly influenced the course of the Mississippi River. The majority of alluvial deposition occurred during glacial retreats (Martin, 1965). The cap rock, rising some 500 feet above the river, consists of Prairie de Chien dolomite underlain by Upper Cambrian Trempealeau sandstones. The Trempealeau Bluffs and Trempealeau Mountain at Perrot State Park (3 miles west of the study area) were separated from the Minnesota side of the Mississippi River by a

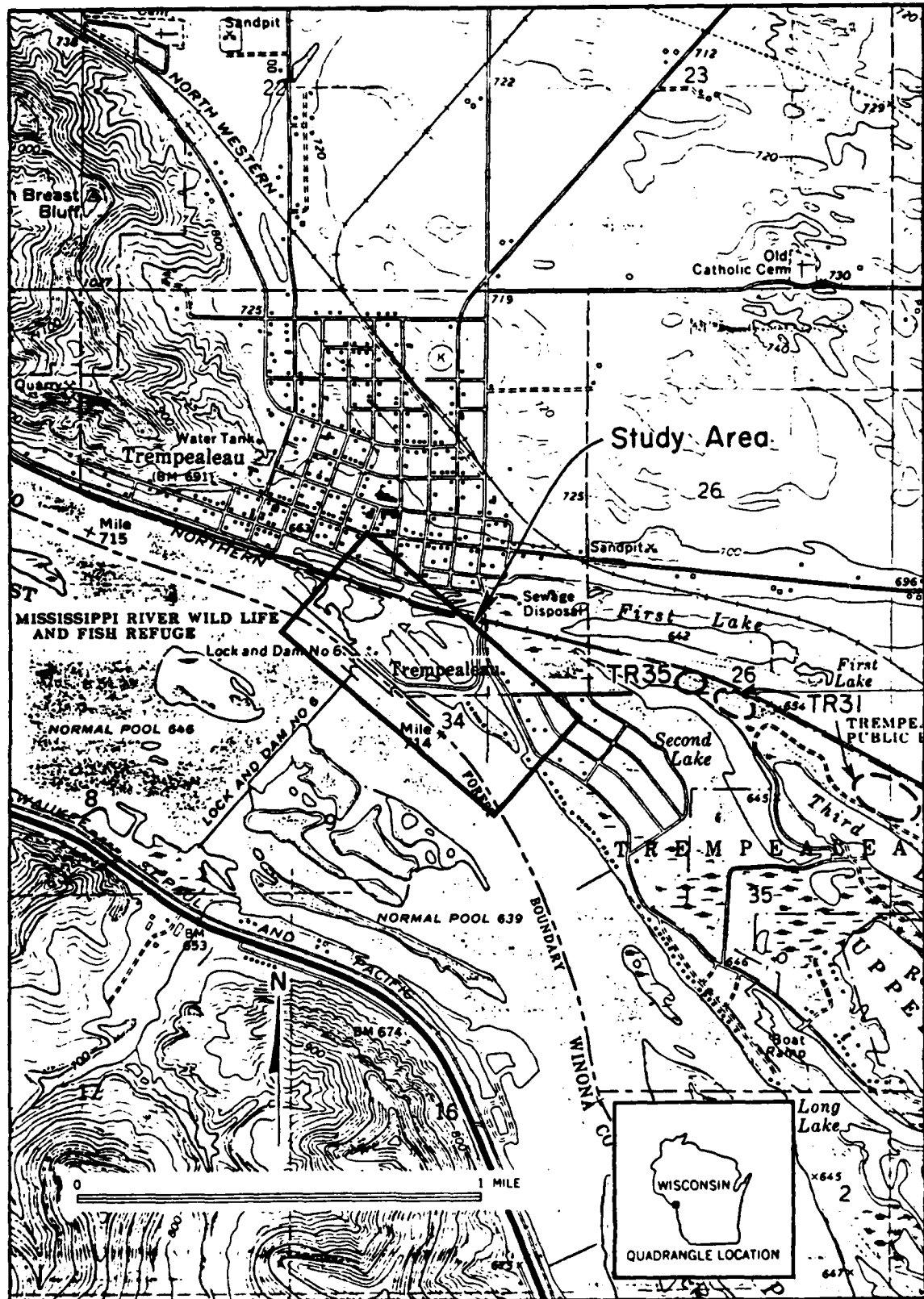


Figure 1. Regional Map of Project Area
(USGS Trempealeau, 7.5' quad;
USGS Pickwick 7.5' quad.)

westward change in the course of the river during the Pleistocene. Today, Trempealeau Mountain sits as an island in the waters of the Mississippi River, and a 3.5 mile wide floodplain extends to the eastern Pleistocene bluffs (Paull and Paull, 1977).

The survey area is located on the floodplain near the shore of the Mississippi River (Figure 1). The Trempealeau County Soil Survey maps the area as "sandy alluvial land" (Langton, 1977). At present the area consists mainly of pools resulting from dredging, and raised "fill" land for dikes and road beds.

ARCHAEOLOGICAL BACKGROUND

The literature and records search conducted by Katherine Stevenson provided a background of the types and locations of cultural resources in the general area of the proposed construction project. Sources consulted include the library of the State Historical Society of Wisconsin, the Wisconsin Historic Preservation Office inventory files, the Wisconsin Archaeological Codification Files and archaeologists for the Great River Road Survey. In addition, the field director questioned two Trempealeau residents regarding their knowledge of the area.

The area along the Mississippi River near the mouth of the Trempealeau River contains at least thirteen archaeological sites. Although many of the sites are Woodland mound groups in the uplands (Stoltman, 1979), several important sites are known to be located on the floodplain. Four floodplain sites are in the region of the proposed small-boat harbor.

Site Tr32 consists of several mounds at Perrot State Park (3 miles west of the study area). Tr34 (Trempealeau Bay Site) is a stratified Middle Woodland-Upper Mississippian habitation site near the mounds of Perrot State Park. Site Tr31 (Schwert Mound Group) and Tr35 (Second Lake Village), located one half mile east of the study area (Figure 1), are listed on the National Register of Historic Places. Site Tr31 contains Early and Middle Woodland village material under the mounds. Tr35 is a single component Middle Woodland campsite adjacent to the Tr31 mounds.

The existence of prehistoric mound groups in the Trempealeau area had been known since before 1900. The significance of the mounds, however, was not recognized

until W.C. McKern excavated the Shake II mound (McKern, 1931). At that time McKern discovered the Hopewell nature of the mounds. McKern later excavated at the Trempealeau Lakes Mound Group, which became the type site for the Trempealeau Focus, the Wisconsin variant of Hopewell ceremonial mortuary customs. More recent work suggests trade relationships with mound building groups in Illinois and Ohio. The village sites below the mounds indicate an Early to Middle Woodland (Havana) occupation before and during the time of mound building activity. Two radiocarbon dates from Tr35 (Second Lake Village) indicate an age of A.D. 350 (Stoltman, 1979).

More recently, the Great River Road archaeological survey by the State Historical Society of Wisconsin has been active in the proposed project area. The project included literature research and transect survey. Transects were established from La Crosse to Alma, Wisconsin and extended to the edge of the Mississippi River. Within the transects only plowed fields were surveyed in an effort to locate sites. Some artifacts were collected from the surface of the sites, but no subsurface testing occurred (Penman, 1979). Several newly discovered sites are present near Perrot State Park as a result of this survey. Two of the transects (T117B, T118B) include the area of the proposed small-boat harbor project at Lock and Dam No. 6. According to the GRR 1981 survey maps, however, no cultural resources were reported in the project area.

CULTURAL RESOURCE SURVEY

Methodology

The cultural resources reconnaissance of the proposed Trempealeau small-boat harbor area was conducted on November 2, 1981 by archaeologists from the Center for Research Archaeology, La Crosse, Wisconsin. The methodology included a visual surface inspection of the proposed construction areas and close examination of cut-banks and erosional features. In addition, Corps of Engineers personnel at Lock and Dam No. 6 provided access to photographic records of the construction of Lock and Dam No. 6 during the early 1930's.

Survey Results

Area 1: Boat Landing and parking lot (Figure 2). The area adjacent to the parking lot was visually inspected. The strip of ground surface had sparse grass cover and a

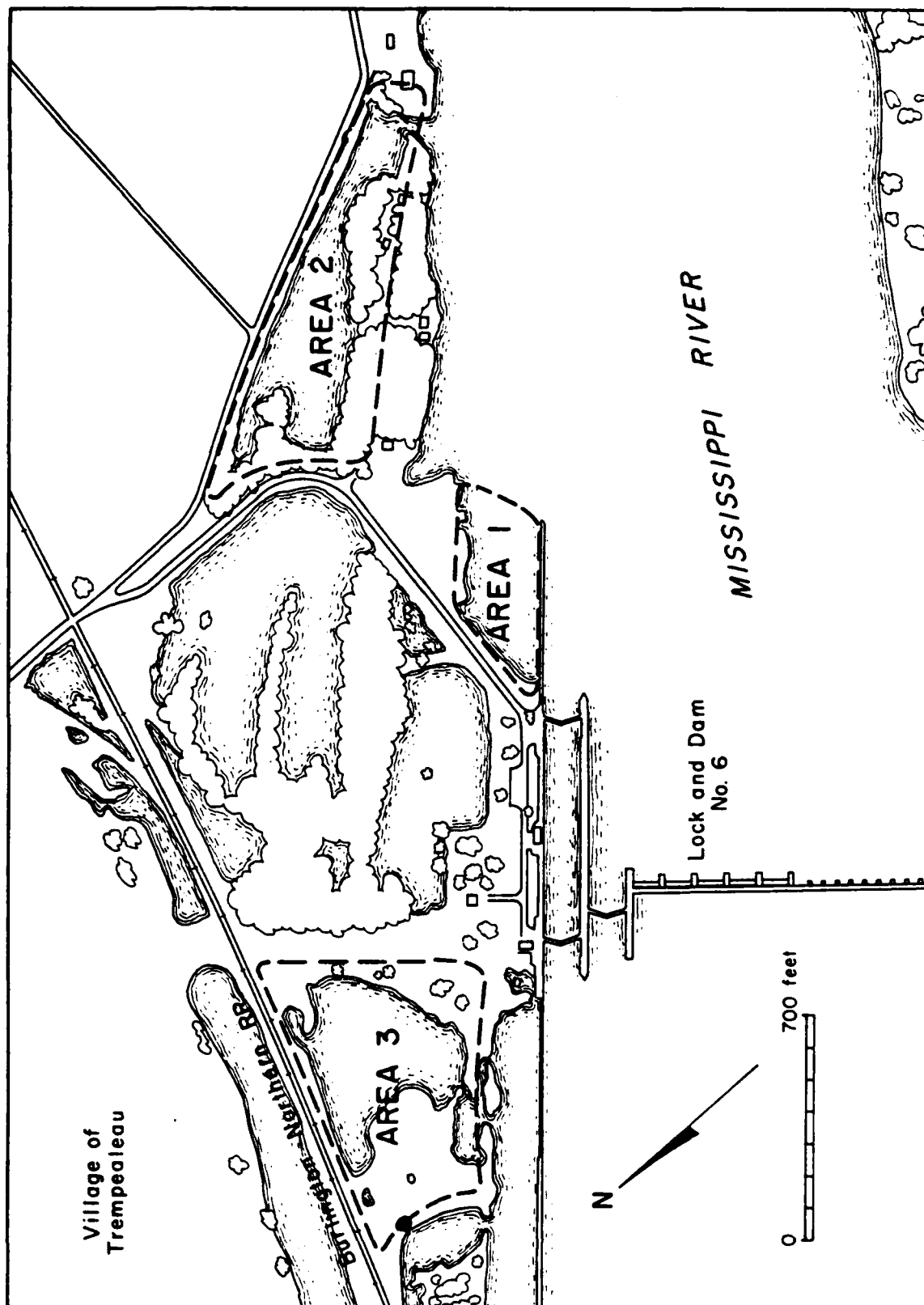


Figure 2. Location map of study areas
(from USCOE aerial photograph)

few trees. The beach area was sandy with only a few gravels. No cultural resources were discovered, only a few pieces of modern trash along the beach.

Area 2: East of boat landing around pond (Figure 2). The pond's northern boundary is the raised dike on which the road to the Lock and Dam is located. The east and south boundary is a steep bank about six-eight feet high with another road. The bank was sparsely vegetated, and a visual inspection revealed no artifacts. The bank appears to be constructed of fill sand with some gravel inclusions. The bank does not have the characteristics of a waterlain deposit as might be expected of an area this near the river. There was no evidence of sediment sorting or bedding. In addition, this bank is several feet higher than the western bank of the pond. It is apparent that this bank was built up with fill (dredge) sand as a raised base for the road.

The western bank has a more gentle slope to the water. A road is located about 15 m. from the pond serving a row of cottages to the west toward the river. The area between the street and the pond has a few scattered trees, sparse grass and is used in part as storage areas for the houses. Some leaf cover was present, but the ground visibility was generally good. The visual survey was conducted by the field director, crew supervisor, and three crew members walking abreast along the project area. No evidence of cultural resources was found.

Area 3: North of Lock (Figure 2). This area is north of Lock and Dam No. 6 and consists of a small portion of land and a pond. The pond is bounded by steep banks on the south by a COE dike, and on the east by the railroad causeway. Both of these raised features resulted from fill activities. The land portion was visually inspected. There were a few trees, and some grass and leaf cover. No artifacts were found.

Subsequent discussions with COE personnel at Lock and Dam No. 6 revealed that this area had been covered with dredge sand in the 1940's which raised it to its present elevations. In addition, photographs on file at the Lock and Dam office documenting the construction of the Lock and Dam were inspected. Photos taken in 1936 indicated the pond did not exist and that the present land surface was crossed by a rail line on an elevated roadbed, and by a construction road for the Lock. This area apparently has experienced extensive disturbance and modification since the beginning of the Lock and Dam construction about 1934.

CONCLUSION

Known archaeological sites in the Trempealeau area will not be endangered by the proposed small-boat harbor at Lock and Dam No. 6. These sites, including two National Register sites, are at sufficient distance that they should not be directly or indirectly affected by the project.

The project area has been greatly altered in the past. Any cultural resources which might have been in the project area would probably have been covered with fill material or removed when the ponds were dredged. Additional dredging of the ponds probably will not endanger any cultural resources. Although the possibility of buried sites does exist, none have been discovered previously in this area. Only the west side of Area 2 appears to have possibly undisturbed sediments.

In conclusion, the cultural resources reconnaissance at the proposed Trempealeau small-boat harbor project area did not discover any cultural resources. Moreover, there is good evidence that the area has been greatly disturbed. Consequently, it is concluded that no cultural resources will be adversely impacted by the proposed construction project.

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APPENDIX A:
Scope of Work

SCOPE OF WORK
CULTURAL RESOURCES INVESTIGATION
AT TREMPLEALEAU, WISCONSIN

1.00 INTRODUCTION

1.01 The Contractor will undertake a cultural resources reconnaissance survey of the small-boat harbor project at Trempealeau, Wisconsin.

1.02 This cultural resources inventory is in partial fulfillment of the obligations of the St. Paul District regarding cultural resources, as set forth in the Historic Preservation Act of 1966 (Public Law (P.L.) 89-665), the National Environmental Policy Act of 1969 (P.L. 91-190), Executive Order (E.O) 11593 for the Protection and Enhancement of the Cultural Environment (Federal Register, 13 May 1971), the Archaeological Conservation Act of 1974 (P.L. 93-291), the Advisory Council on Historic Preservation "Regulations for the Protection of Historic and Cultural Properties" (36 C.F.R. Part 800), the Department of the Interior guidelines concerning cultural resources (36 C.F.R. Part 60), and Corps of Engineers Regulations (ER 1105-2-460) "Identification and Administration of Cultural Resources" (Federal Register, 3 April 1978).

1.03 The laws and regulations mentioned above establish the importance of Federal leadership, by the various responsible agencies, in locating and preserving cultural resources within project areas. Specific steps to comply with these laws, particularly as directed in P.L. 93-291 and E.O. 11593, are being taken by the Corps "...to assure that Federal plans and programs contribute to the preservation and enhancement of non-federally owned sites, structures, and objects of historical, architectural, or archaeological significance." A part of that responsibility is to locate, inventory, and nominate to the Secretary of the Interior all such sites in the project area that appear to qualify for listing on the National Register of Historic Places.

1.04 The Executive Order further directs Federal agencies "...to assure that any federally owned property that might qualify for nomination is not inadvertently transferred, sold, demolished or substantially altered." In addition, the Corps is directed to administer its policies, plans, and programs in such a way that federally and non-federally owned sites, structures, and objects of historical, architectural, or archaeological significance are preserved and maintained for the inspiration and benefit of the people.

1.05 This cultural resources investigation will serve several functions. The report will be planning tool to aid the Corps in meeting its obligations to preserve and protect out cultural heritage. It will be a comprehensive, scholarly document that not only partially fulfills federally mandated legal requirements but also serves as a scientific reference for future professional studies. It will identify sites which may require additional investigations and which may have potential for public-use development. Thus, the report's content must be analytical in nature, not just descriptive.

2.00 PROJECT DESCRIPTION

2.01 Trempealeau, with a 1977 population of about 750, is on the east bank of the Mississippi River, 714.5 miles above the mouth of the Ohio River. Lock and Dam 6 is next to the village. The drainage area of the Mississippi River at Trempealeau is approximately 60,030 square miles.

2.02 Because of Lock and Dam 6, Trempealeau offers one of the best locations for a protected small-boat harbor between Winona, Minnesota, and La Crosse, Wisconsin, a distance of about 28 miles (45 kilometers). The 9-foot channel, which makes the area accessible to boat owners from distant points, and good fishing in the immediate vicinity of Lock and Dam 6 encourage watersport enthusiasts to visit the Trempealeau area frequently. However, no harbor facilities for the servicing and protection of small craft are near Trempealeau. A harbor at this point would be particularly desirable as a harbor-of-refuge for transient vessels. A harbor at Trempealeau would also provide a convenient place where boaters waiting to pass through the lock and dam could stop to get some refreshments and provisions in town.

2.03 The reconnaissance investigation for the project was conducted under the authority of Section 107 of the River and Harbor Act of 1960, as amended, and is in accordance with ER 1105-2-50. The investigation was made in response to an 8 June 1977 resolution from the Village Board of Trempealeau, Wisconsin. The resolution asked the Corps of Engineers to study the feasibility of developing a small navigation project at Lock and Dam 6.

2.04 The proposed harbor facilities would contain surface area for 100 slips. The maneuvering and berthing areas would be dredged to 6 feet plus 1 foot of overdepth. The entrance channel would have a depth 6 feet below normal pool level and a width of 150 feet. Harbor facilities will also include an access road, launching ramp, parking and service areas, and sanitary facilities.

3.00 DEFINITIONS

3.01 For the purpose of this study, the cultural resources investigation will include a literature and records search and review, and a Phase I on-the-ground reconnaissance level survey. Phase II testing will not be conducted at this time.

3.02 "Cultural resources" are defined to include any building, site, district, structure, object, data, or other material relating to the history, architecture, archaeology, or culture of an area.

3.03 "Literature and records search" is defined as a search for and examination of written reports, books, articles, files, records, etc., published and unpublished (found in private, local, State, and Federal depositories), which are pertinent to the cultural resources investigation to be carried out for a particular project. The purposes of the literature and records search are: to familiarize the Contractor with the culture history of the study area and past investigations which have been carried out in the area; to document the location and condition of known sites which may exist within the project area, the extent of past work undertaken at the site, and any other information which may be relevant in assessing the significance of the site; and to provide this information in a summarized form to the agency requesting the search. Although existing data may be extensive, the literature and records search should be as comprehensive as possible in providing a usable body of data for the purposes outlined above.

3.04 "Literature and records review" is defined as the review and evaluation of the pertinent literature and records examined under section 3.03. The purpose of the literature and records review is to provide the sponsoring agency with the Contractor's professional opinion as to the quality, nature, and extent of the sources identified in the literature and records search (see section 5.11).

3.05 "Phase I cultural resources survey" is defined as an intensive, on-the-ground survey and testing of an area in order to determine the number and extent of the archaeological, historic, and architectural resources present and their relationship to all the project alternatives and features. A Phase I cultural resources survey will result in data adequate to assess the general nature of all sites present; a recommendation for additional testing of those resources which, in the professional opinion of the Contractor, may provide important cultural and scientific information; and detailed time and cost estimates for Phase II testing.

3.06 "Phase II testing" is defined as the intensive testing of those sites which may provide important cultural and scientific information. Phase II testing will result in data adequate to determine the eligibility of the resources for inclusion on the National Register of Historic Places, a plan for the satisfactory mitigation of eligible sites which will be directly or indirectly impacted, and detailed time and cost estimates for mitigation. Phase II testing will not be conducted under this contract.

4.00 SURVEY SPECIFICATIONS

4.01 The literature and records search and review conducted by the Contractor will encompass the specific project area as well as a larger or regional archeological and historic study area. The scope of the search and review shall be large enough to provide the sponsor with an overall perspective on the area's cultural resources as well as project-specific information.

4.02 The three proposed harbor locations to be surveyed under this contract are designated in blue, green, and yellow on the inclosed maps. The proposed construction includes dredging of the water areas, and facilities such as docking, walkways and utilities along the shoreline. The Contractor must survey 100 percent of the land of proposed harbor locations.

5.00 PERFORMANCE SPECIFICATIONS

5.01 The Contractor will utilize a systematic, interdisciplinary approach in conducting the study. The Contractor will provide specialized knowledge and skills during the course of the study to include expertise in archeology, history, architectural history and other social and natural sciences as required.

5.02 The extent and character of the work to be accomplished by the Contractor will be subject to the general supervision, direction, control, review and approval of the Contracting Officer.

5.03 Techniques and methodologies that the Contractor uses during the investigation shall be representative of the current state of knowledge for their respective disciplines.

5.04 The Contractor shall keep standard records which shall include, but not be limited to, field notebooks, site survey forms, field maps, and photographs.

5.05 The tested areas will be returned as closely as practical to presurvey conditions by the Contractor.

5.06 The recommended professional treatment of recovered materials is curation and storage of the artifacts at an institution that can properly insure their preservation and that will make them available for research and public view. If such materials are not in Federal ownership, the consent of the owner must be obtained, in accordance with applicable law, concerning the disposition of the materials after completion of the report. The Contractor will be responsible for making curatorial arrangements for any collections which are obtained. Such arrangements must be coordinated with the appropriate officials of Wisconsin and approved by the Contracting Officer.

5.07 When sites are not wholly contained within the right-of-way, the Contractor shall survey an area outside the right-of-way limits large enough to include the entire site within the survey area. This procedure shall be done in an effort to delineate site boundaries and to determine the degree to which the site will be impacted.

5.08 The Contractor shall provide all materials and equipment as may be necessary to expeditiously perform those services required of the study.

5.09 Should it become necessary in the performance of the work and services, the Contractor shall, at no cost to the Government, secure the rights of ingress and egress on properties not owned or controlled by the Government. The Contractor shall secure the consent of the owner, his representative, or agent, in writing prior to effecting entry on such property. If requested, a letter of introduction, signed by the District Engineer, can be provided to explain the project purposes and request the cooperation of landowners. Where a landowner denies permission for survey, the Contractor shall immediately notify the Contracting Officer and shall describe the extent of the property to be excluded from the survey.

Literature And Records Search And Review (See sections 3.03 and 3.04 for definitions)

5.10 The Contractor will obtain information and data for the literature and records search from, but will not be limited to, the following sources:

a. Published and unpublished reports and documents such as books, journals, theses, dissertations, manuscripts, newspapers, surveyor's maps and notes, early atlases, missionary records, and other private, city, State or Federal documents.

b. Site files and other information held at the Wisconsin State Historical Society Libraries, Archives, and Archeology Department; the State Archeologist's Office; the University of Wisconsin Department of Anthropology and libraries; and materials available from the Trempealeau County Historical Societies and other local historical societies.

c. The Contractor will obtain from the Wisconsin State Historic Preservation Office information regarding any cultural resources in the project area that have been nominated or are being considered for nomination to the National Register of Historic Places, and will report the results in the Contract report.

d. Consultation with other professionals familiar with cultural resources in the area.

e. Consultations with amateur archeologists, historians, and individuals concerned with local archeology and history in order to locate sites and to identify and define local interests and resources perceived to be locally significant.

5.11 A review and evaluation of previous archeological and historical studies of the region, including the date, extent, and adequacy of the past work as it reflects on the interpretation of what has been done in the area, should be undertaken and summarized in the report.

5.12 The literature and records search shall include a listing of all sites (historic and prehistoric) identified during the course of the study and an evaluation of the direct and indirect impact upon them of all the proposed project alternatives and features.

Phase I Survey

5.13 The on-the-ground examination will involve an intensive survey and sub-surface informal testing of the area in order to determine the total number and extent of cultural resources present. This includes standing architectural structures as well as historic and prehistoric archeological sites.

5.14 An attempt will be made to locate all resources previously recorded that are located in the project area as described in the preceeding sections and to report their condition.

5.15 The survey shall include surface inspection in areas where surface visibility permits adequate recovery of cultural materials and subsurface testing where surface visibility is limited. Subsurface investigation will include shovel testing, coring, soil borings, or cut bank profiling, where necessary and appropriate.

5.16 The recommended grid or transect interval is 15 meters (50 feet). However, this interval may vary depending upon field conditions. If the recommended interval is not used, justification should be presented for selection of an alternate interval. All subsurface tests will be screened through 1/4-inch mesh.

6.00 GENERAL REPORT REQUIREMENTS

6.01 The Contractor will submit the following types of reports, which are described in this section and in section 9.00: field report, field notes, draft contract report, final contract report, and a popular report.

6.02 The Contractor's technical report shall include, but shall not be limited to, the following sections.

a. Title Page: The title page shall provide the following information: the type of investigation undertaken; the cultural resources which were assessed (archeological, historical, and architectural); the project name and location (county and State); the date of the report; the Contractor's name; the contract number; the name of the author(s) and/or Principal Investigator; the signature of the Principal Investigator; and the agency for which the report is being prepared.

b. Abstract: An abstract of findings, conclusions, and recommendations. This should not be an annotation.

c. Management Summary: This section will include a concise summary of the study, which will contain all essential data for using the document in the Corps of Engineers management of the project. This information will minimally include: why the work was undertaken and who the sponsor is, a brief summary of the scope of work and budget, summary of the study (field work; lab analysis; literature and records search and review, including the National Register of Historic Places, dates checked, and results), study limitations, study results, significance, recommendations and the repository of all pertinent records and artifacts.

d. Table of Contents

e. List of Figures

f. List of Plates

g. Introduction: This section shall identify the sponsor (Corps of Engineers) and the sponsor's reason for the study; an overview of the sponsor's project and the alternatives, with the alternatives located on USGS quad maps; provide an overview of the archeological/historical study to be undertaken; define the location and boundaries of the study area (with regional and area-specific maps); define the study area within its cultural, regional, and environmental context; reference the scope of work; identify the institute that did the work, the number of people involved in the study, the number of person-days/hours utilized during the study; identify the dates when the various types of work were completed; identify the repository of records and artifacts; and provide a brief overview or outline of how the study report will proceed and an overview of the major goals that the study/study report will accomplish.

h. Previous Archeological and Historical Studies: This section shall provide a summary and evaluation of previous archeological and historical studies of the project area and region, including the researchers, date, extent, adequacy of the past work, study results, and cultural/behavioral inferences derived from the research.

i. Environmental Background: This section shall include a description of the study area and regional environment, including the following categories: geology, vegetation, fauna, climate, topography, physiography, and soils, with reference to prehistoric, historic, ethnographic, and contemporary periods. Any information available on the relationship of the environmental setting to the area's prehistory and history shall be included. This section shall be of a length commensurate with other report sections.

j. Regional Prehistory and History: This section shall discuss regional cultural developments, spatially and chronologically; environmental adaptations; subsistence, resource procurement, and settlement patterns; site/population density and size; and any other pertinent information on the prehistory, proto-history, and history of the project area and region.

k. Theoretical and Methodological Overview: This section shall include a description or statement of the goals of the Corps of Engineers and the study researcher, the theoretical and methodological orientation of the study, and the research strategies that were applied in achieving the stated goals.

l. Literature and Records Search and Review: This section shall detail the methodology and sources used for the literature and records search and review as well as a description and evaluation of all information and data recovered. For each reference discussed, the author, date and page numbers will be cited. Bibliographic information shall also be included at the end of the report. (See sections 3.03, 3.04, 5.10, 5.11 and 5.12.)

m. Field Methods: This section will describe specific archeological and historical activities that were undertaken to achieve the stated theoretical and methodological goals. The section shall include all field methods, techniques, strategies, and rationale or justification for specific methods or decisions. The description of the field methods shall minimally include: a description of the areas surveyed, survey conditions, topographic/physiographic features, vegetation conditions, soil types, stratigraphy, survey limitations, survey testing results with all appropriate testing forms to be included as an appendix (e.g., shovel tests, coring, cut bank profiles, etc.), degree of surface visibility, whether or not the survey resulted in the location of any cultural resources, the methods used to survey the area (pedestrian reconnaissance, subsurface test, etc.), the rationale for eliminating uninvestigated areas, the estimated size of the investigated sample and its relationship to the sample universe (e.g., 100 acres were surveyed, representing 15 percent of the project impact area), and the grid or transect interval used. Testing methods shall include descriptions of test units (size, intervals, stratigraphy, depth) and the rationale behind their placement.

n. Analysis: This section will describe and provide the rationale for the specific analytic methods and techniques used, and describe and discuss the qualitative and quantitative manipulation of the data. Limitations or problems with the analysis based on the data collection results will also be discussed. This section shall also contain references to accession numbers used for all collections, photographs, and field notes obtained during the study, and the location where they are permanently housed.

o. Investigation Results: This section will describe all the archeological and historic resources encountered during the study, and any other data pertinent to a complete understanding of the resources within the study area. This section shall include enough empirical data that the study results can be independently assessed. The description of the data shall minimally include: a description of the site; amounts and type of material remains recovered; relation of the site or sites to physiographic features, vegetation and soil types, project alternatives, and direct and indirect impact areas; analysis of the site and data (e.g., site type, cultural historical components and information, cultural/behavioral inferences or patterns); site condition; and location and size information (elevation, complete quad map source, legal description, address if appropriate, and site size, density, depth, and extent). The information shall be presented in a manner that can be used easily and efficiently by the Corps of Engineers. This site information shall be presented with each site discussed on a separate page/pages and the site location indicated on a USGS map. If a site location has not been field-verified, the Contractor must indicate the approximate area on the map and indicate that it has not been verified, or give an explanation why the site cannot be located on a map. An example of this site description format follows:

Site Number and Name

Complete Legal Description: Township, Range, Section, County or Address, if appropriate. Indicate if the site has been field-verified or not, when and by whom.

Complete USGS Quadrangle Reference: Quad name, Quad size, all Quad dates.

Report Figure/Map/Plate Reference

Accession Numbers

Site Type, Site Reports, Investigations of Dates

Cultural Affiliation (with dates or date estimates)

Environmental Descriptions: Briefly, to include topography, physiography, soils, and vegetation.

Site Description

Present Site Condition: Disturbed, undisturbed, vegetation, soils, and surface material.

Site Significance: As reported by others and the Contractor's evaluation, including an evaluation of previous conclusions.

Project Impacts: Evaluate the direct and indirect impacts of the project upon the site.

Recommendations: Management recommendations, future archeological/historic work recommendations.

Remarks: For comments with no other category.

Pertinent Bibliographic References

A paragraph before the site descriptions should indicate that, if no information is available for a specific category, this category will not be included in the listing.

The location of all sites and other features discussed in the text will be shown on a legibly photocopied USGS map and will be bound into the report. Maps shall also be included showing the relationship of sites to the project areas which were surveyed. In addition, the project map will show those areas that have been eliminated from the survey due to unacceptable survey conditions. Maps should also show the type of survey method employed for each area surveyed (for example, pedestrian walkover, shovel tests). All maps will be labeled with a caption/description, a north arrow, a scale bar, township, range, map size, and dates, and the map source (e.g., the USGS quad name or published source) and will have proper margins. All sites will be recorded on the appropriate State site forms. Inventoried sites shall include a site number. Official site designations assigned by an appropriate State agency are preferred. However, if temporary site numbers will be used in either the draft or final reports, they shall be substantially different from the official site designations to avoid confusion or duplication of site numbers. Known sites shall have their State site forms updated as necessary.

p. Evaluation and Conclusions: This section shall evaluate and formulate conclusions concerning site/sites location, density, size, condition, distribution, and significance in relation to the local and regional archeology and history; and in relation to the project alternatives and features; and shall also discuss the potential and goals for future research. The section shall also discuss the reliability of the analysis or other pertinent data recovered (e.g., site locations, types, distribution, etc.); relate results of the study and analysis to the stated study goals; identify changes, if any in the research goals; synthesize and compare the results of the analysis and study; integrate ancillary data; and identify and discuss cultural/behavioral patterns and processes that are inferred from the study and analysis results.

q. Recommendations: This section shall discuss the direct and indirect impacts of all the project alternatives and features on the area's cultural resources with specific management recommendations on all previously recorded and newly discovered sites; discuss the significance of sites to the extent permitted by the study level in relation to the research goals established in the study; make recommendations on the potential eligibility of the sites to the National Register of Historic Places; recommend future intensive level research priorities, needs; and make suggestions with regard to the Corps of Engineers planning goals and project alternatives. These recommendations shall include a time and cost estimate. If it is the Contractor's assessment that no significance resources exist in the project area, the methods of investigation and reasoning which support that conclusion will be presented. If certain areas are not accessible, recommendations will be made for future consideration. Any evidence of cultural resources or materials which have been previously disturbed or destroyed will be presented and explained.

r. References: This section shall provide standard bibliographic references (American Antiquity format) for every publication cited in the report. References not cited in the report will be listed in a separate "Additional References" section.

s. Appendix: This section shall include the Scope of Work; resumes of all personnel involved; all correspondence derived from the study; all State site forms; all testing and any other pertinent report information referenced in the text as being included in the appendix.

5.03 Failure to fulfill these report requirements will result in the rejection of the report by the Contracting Officer.

7.00 FORMAT SPECIFICATIONS

7.01 The Contractor shall submit to the Contracting Officer the photographic negatives for all black and white photographs which appear in the final report.

7.02 All text materials will be typed, single-spaced (the draft reports should be space-and-one-half or double-spaced), on good quality bond paper, 8.5 inches by 11.0 inches, with a 1.5-inch binding margin on the left, 1-inch margins on the top and right, and a 1.5-inch margin at the bottom, and will be printed on both sides of the paper.

7.03 Information will be presented in textual, tabular, and graphic forms, whichever are most appropriate, effective, or advantageous to communicate the necessary information.

7.04 All figures and maps must be clear, legible, self-explanatory, and of sufficiently high quality to be readily reproducible by standard xerographic equipment, and will have margins as defined above.

7.05 The final report cover letter shall include a budget of the project.

7.06 The draft and final reports will be divided into easily discernible chapters, with appropriate page separation and heading.

7.07 Negatives of all black and white photographs contained in the final report must be included so that copies for distribution can be made.

8.00 MATERIALS PROVIDED

8.01 The Contracting Officer will furnish the Contractor with the following materials:

a. Access to any publications, records, maps, or photographs that are on file at the district headquarters.

b. Two sets of USGS Quadrangle maps of the project area. One set will be used as field maps, and one set will be returned to the Corps of Engineers designating site numbers and locations, and areas surveyed and tested.

c. One set of project alternative maps.

d. A letter of introduction signed by the St. Paul District Engineer explaining the objectives of the work and requesting cooperation from private landowners, if requested.

9.00 SUBMITTALS

9.01 The Contractor will submit reports according to the following schedules:

a. Field Report: The original and one copy of a field report will be submitted after completion of the field work. The field report will summarize the work, project/field limitations, methodology used, time utilized, and survey results.

b. Project Field Notes: One legible copy of all the project field notes will be submitted with the draft contract report.

c. Draft Contract Report: The original and 10 copies of the draft contract report will be submitted on or before 60 days after contract award. The draft contract report will be reviewed by the Corps of Engineers, the State Historic Preservation Officer, the State Archeologist, and the National Park Service. The draft contract report will be submitted according to the report and contract specifications outlined in this Scope of Work.

d. Final Contract Report: The original (unbound) and 15 copies of the final contract report (bound) will be submitted 30 days after the Corps of Engineers comments on the draft contract report are received by the Contractor. The final contract report will incorporate all the comments made on the draft contract report.

e. Popular Report: A draft popular report will be submitted with the draft contract report, and will be reviewed by the Corps of Engineers. Fifteen copies of the final popular report will be submitted with the final contract report. The popular report shall be a condensed version of the contract report that would be of interest to the general public. The report shall provide an overview of the archeology, protohistory, and history of the project area and region; a brief review of the work conducted in the area and the reasons (both professional and managerial) why the work was conducted, and the results of the completed survey. Exact site locations will not be reported in the popular report.

f. Site Forms: All completed State site forms will be submitted to the appropriate State agency.

9.02 Neither the Contractor nor his representative shall release any sketch, photograph, report, or other material of any nature obtained or prepared under the contract without specific written approval of the Contracting Officer prior to the acceptance of the final report by the Government. After the Contracting Officer has accepted the final report, distribution will not be restricted by either party except that data relating to the specific location of extant sites will be deleted in distributions to the public.

10.00 METHOD OF PAYMENT

10.01 Payment for all work performed under this contract will be made in a lump sum upon approval of the final report by the Contracting Officer.

APPENDIX B:
Personnel Curriculum Vitae

GENERAL INFORMATION:

Name: James Patrick Gallagher

PII Redacted

Present Position and Academic Rank: Associate Professor, University of Wisconsin-La Crosse; Director, Mississippi Valley Archaeology Center at the University of Wisconsin-La Crosse.

EDUCATION:

B.S. Anthropology, Saint Louis University, 1964

M.A. Anthropology, Southern Methodist University, 1969

Ph.d. Southern Methodist University, 1977

Dissertation Title: Ethnoarchaeological and Prehistoric Investigations in the Ethiopian Central Rift Valley.

PROFESSIONAL EXPERIENCE: TEACHING

University of Oklahoma, teaching assistant, 1966-67

Trinidad Jr. College, Trinidad, Colorado, director of archaeology field school, 1968

Southern Methodist University, teaching assistant, 1969

Southern Methodist University, Instructor, University College, 1970,72

El Centro College, Dallas, Texas, Instructor, 1972-77

University of Wisconsin-La Crosse, 1977 - Present

RESEARCH

Archaeologist, Illinois State Museum (J. Caldwell), summer 1963

Archaeologist, Wisconsin State Museum excavations at Aztalan (J. Freeman), summer 1964

Research Assistant, University of Oklahoma Spiro Mound Project (J. Brown) 1964-66

Archaeologist, University of Oklahoma (R. Bell), summer 1965

Ethnographer, one semester ethnographic project in Kiowa Apache material culture (A. Ricciardelli) 1964, University of Oklahoma

Archaeologist, excavations at Roc de Combe, France (F. Bordes) 1966

Research Assistant, Southern Methodist University Nubian Prehistoric Project (J. Shiner), 1967-68

Field Director, archaeology field school, Trinidad Jr. College, Trinidad, Colorado, 1968

Archaeologist, excavations at Pech de l'Aze, France (F. Bordes), 1969

Archaeologist, excavations at Ksar A'Quil, Lebanon (J. Tixier), 1969

Field Director, Southern Methodist University Ethiopian Prehistoric Expedition (F. Wendorf), 1971-72

Principal Investigator, Ethiopian Ethnoarchaeology Project, 1971-72

Field Director, Egyptian Predynastic Project (F. Hassan) 1978

Principal Investigator, archaeological excavations at the Valley View Site, 1978, 1979

Principal Investigator, La Crosse Area Archaeological Survey I, 1979

Principal Investigator, Overhead Site excavation, 1980

Principal Investigator, La Crosse Area Archaeological Survey II, 1980 & 1981

CULTURAL RESOURCE MANAGEMENT PROJECTS

1977

Archaeological survey of the proposed Chippewa River Crossing, Buffalo Co., Wis., Dairyland Power Cooperative, La Crosse

Archaeological survey of the Holmen Industrial Park. Village of Holmen, Wis.

1978

Archaeological survey of the Alma-Tremval and Alma-Crystal Powerline transmission route (81 miles). Dairyland Power

Archaeological survey of sewer and water pipe line routes in Medary Township. City of La Crosse.

Archaeological survey of by-pass route in the City of La Crosse. City of La Crosse.

Timber Coulee Creek Survey, Vernon County. Wisconsin Department of Natural Resources.

Archaeological Survey of Lake Marinuka, Galesville, Wi. Lake Marinuka Protection and Rehabilitation District.

An archaeological inspection of the Pigeon Creek Bridge area,
Trempealeau Co. Westbrook Associates

1979

Archaeological survey of transmission line routes and substation
location in Vernon County. Dairyland Power

An archaeological inspection of a proposed waste water treatment
facility near Dorchester, Clark County, Wis. ETC Engineering Inc.

An archaeological survey of Copeland Park. City of La Crosse.

An archaeological inspection of the Gillett St. viaduct and
approaches. City of La Crosse

An archaeological inspection of a proposed powerline route near
Mauston, Juneau Co. Dairyland Power

An archaeological inspection of a waste water treatment site at Alma,
Buffalo Co. ETC Engineering

An archaeological survey at Brice Prairie, La Crosse Co. Dairyland
Power

An archaeological inspection at Coon Valley, Vernon County. ETC

An archaeological survey of Pine Creek, Trempealeau Co. Westbrook

An archaeological inspection of a bridge crossing site on the Little
Baraboo River, Sauk Co. Westbrook

An archaeological survey of a portion of the Little Grant River,
Grant Co. Wisconsin Dept. of Natural Resources

An archaeological survey in St. Croix County. Dairyland Power

An archaeological survey of the proposed right of way for County
Highway A in Monroe Co. Donhohue and Associates

An archaeological survey of a sewage disposal site at Stoddard, Vernon
Co. ETC Engineering

1980

Thunderbird Hills Archaeological survey, La Crosse, Wi. Neitzel
Engineering Co

An archaeological survey of the Washco Substation, Washington County
Wis. Dairyland Power Cooperative

An archaeological survey of the comfort substation in Northern
Wisconsin. Dairyland Power Cooperative

An archaeological survey of the proposed County Highway B project,
La Crosse County

An archaeological survey of the proposed Genoa Wisconsin-Lansing Iowa transmission route. Dairyland Power Cooperative

An archaeological inspection of the Fairchild Site. Dairyland Power Cooperative

The Potosi substation on transmission route. Dairyland Power

An archaeological survey of the Pammel Creek area. La Crosse, Wis. U.S. Corps of Engineers

Phase II excavations at Pammel Creek. U.S. Corps of Engineers

Phase II testing at sites along the proposed Transmission line at Elk River, Minnesota.

An archaeological survey of the Hannibal Power line route. Dairyland Power

1981

An archaeological survey at Viola, Wis. ETC Engineering

Cultural Resources Investigation at Stueben, Wis. substation site. Dairyland Power

A cultural Resources investigation at Wittenburg Park, City of La Crosse

CTH 'OS' archaeological survey. La Crosse County

An archaeological survey of the Sherco Benton Power Line, St. Cloud, Minnesota. Northern States Power Co.

A Phase I and Phase II study of the proposed Holmen sewer line and treatment site. Village of Holmen, Wis.

Riceford Transmission line and substation, Riceford, Minnesota. Dairyland Power

Root River Channelization Project, Houston Co., Minnesota. U.S. Corps of Engineers

Archaeological testing of the southern end of Goose Island, Vernon Co., Wis. U.S. Corps of Engineers

An archaeological inspection of a dredge spoil site in Trempealeau, Wis. U.S. Corps of Engineers

Archaeological excavations (Phase I & II) of the proposed wastewater treatment site at Coon Valley, Wis. Village of Coon Valley

OTHER

Participant, summer seminar and field study in Egyptian civilization and culture, Ain Shams University, Cairo, 1975

HONORS AND AWARDS

Fellow, Institute for the Study of Earth and Man, Southern Methodist University, Dallas, Texas

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

Wisconsin Archaeological Survey
Wisconsin Archaeological Society
Society for American Archaeology
Association of Iowa Archaeologists
Minnesota Archaeological Society
Society of Africanist Archaeologists in America
Iowa Archaeological Society

PUBLICATIONS AND PAPERS PRESENTED

- 1965 Gallagher, J.P., Michael Davis, and Fred Schneider, "Plains Indian German Silverwork in the Anadarko, Oklahoma Area". Papers in Anthropology, 6:22-40, University of Oklahoma, Norman.
- 1973 Gallagher, J.P., "Preliminary report on archaeological research near Lake Zuai, Ethiopia" Annales d'Ethiopie, 9:64-80, Ethiopian Archaeological Institute, Addis Ababa.
- 1973 Gallagher, J.P., "Ethiopian Ethnoarchaeology" paper presented at the Conference of Africanist Archaeologists, April 16, 1973, Southern Methodist University, Dallas, Texas.
- n.d. Gallagher, J.P., "Ethnoarchaeology in south central Ethiopia", Proceedings of the VIIth Pan African Congress of Prehistory and Quaternary Studies, in press, Addis Ababa.
- 1974 Gallagher, J.P., "Preparation of hides with stone tools in south central Ethiopia", Journal of Ethiopian Studies, 13 (1): 177-182, Institute of Ethiopian Studies, Addis Ababa.
- 1977 Gallagher, J.P., "Ethiopian Research", Nyame Akuma, 11:11-14.
- 1977 Gallagher, J.P., "Contemporary Stone Tools in Ethiopia: Implications for Archaeology", Journal of Field Archaeology, 4:407-414.
- n.d. Hassan, Fekri A., T.R. Hays, and J.P. Gallagher, "Recent Excavations of Predynastic Sites in the Nagada-Khattara Area, Upper Egypt", in press, Nyame Akuma.
- 1979 Gallagher, J.P., "Excavations at the Valley View Site, a fortified Oneota village near La Crosse, Wis.", paper presented at the 1979 meeting of the Society for American Archaeology, Vancouver, B.C.
- 1979 Gallagher, J.P., "The Valley View Site, An Orr Focus Village near La Crosse", paper presented at the Midwest Archaeological Conference, October 13, 1979, Milwaukee, Wis.
- 1980 Gallagher, J.P. and Katherine Stevenson, "The Overhead Site-- a Multicomponent Site on the Mississippi River at La Crosse." Paper presented at the Midwest Archaeological Conference, Oct. 4, Chicago.

- 1980 Gallagher, J.P. and Katherine Stevenson, "Oenota Subsistence and Settlement in Southwestern Wisconsin". Paper presented at the Midwest Archaeological Conference, Oct. 5, Chicago.
- 1980 Fekri Hassan, T.R. Hays, J. Gallagher, et al, "Towards a Model of Agricultural Developments in Predynastic Egypt". Paper presented at the International Symposium on the Origin and Early Development of Food Producing Cultures in North-Eastern Africa, Poznan Poland, Nov. 15.
- 1980 Gallagher, J.P. and Katherine Stevenson, Preliminary Report on excavations at the Valley View Site (47 LC 34), an Oenota Village near La Crosse, Wisconsin Archaeologist, vol. 61 #4.
- 1980 Fekri Hassan, T.R. Hays, J. Gallagher, et al, "Agricultural Developments in the Nagada, Egypt region during the Predynastic Period". Paper presented at the annual meeting of the American Research Center in Egypt, 13-15 April, San Francisco. Published in Nyame Akuma, vol.17, 1980.
- 1981 J. Gallagher, K. Stevenson, et al, "The Overhead Site". Technical Report on file at the State Historical Society of Wisconsin.

VITA

NAME	Thomas R. Hays
PRESENT POSITION	North Texas State University, Denton, Texas Director, Archaeology Laboratory
EDUCATION	B.A., (Anthropology) Southern Methodist University, 1966 M.A., (Anthropology) Southern Methodist University, 1969 Ph.D., (Anthropology) Southern Methodist University, 1971 Dissertation topic: "The Sudanese Neolithic: A Critical Analysis"
RESEARCH SPECIALTY	Cultural resource management, prehistoric lithic and ceramic analysis, underwater archaeology and Old World prehistory.
FIELD WORK EXPERIENCE	Summer 1965: Archaeologist, Pot Creek Pueblo, New Mexico Summer 1966: Field Director, Fort Lancaster, Texas Excavation Fall 1966: Archaeologist, SMU Northern Sudan Project Spring 1968: Archaeologist, SMU Egyptian Prehistory Project Spring 1969: Archaeologist, SMU Egyptian Prehistory Project Summer 1970: Field Director, Padre Island, Texas, Underwater Survey Summer 1971: Field Director, Archaeological Survey of the Elm Fork Spring 1973: Archaeologist, Combined Expedition to the Egyptian Sahara Summer 1974: Principal Investigator, Northlake, Texas Archaic Excavation Fall 1975: Principal Investigator, El Khatara Project, Upper Egypt Spring 1977: Principal Investigator, El Khatara Project, Upper Egypt
TEACHING EXPERIENCE	1970-76: Assistant Professor of Anthropology, Department of Sociology, the University of Texas at Arlington
GRANTS AWARDED	1969: National Science Foundation Doctoral Dissertation Improvement 1972: Smithsonian Institution Research Field Trip Grant 1973: National Endowment for the Humanities Summer Stipend 1975: National Science Foundation Research Grant (Egypt) 1975: Smithsonian Institution Research Grant (Egypt) 1976: Smithsonian Institution Research Grant (Egypt)

PUBLICATIONS
AND PAPERS

Hays, T. R. and E. B. Jelks, 1966, "Archaeological Exploration at Fort Lancaster, 1966," Texas State Building Commission Archaeological Report #4.

Marks, A. E. and J. L. Shiner, and T. R. Hays, 1968, "Survey and Excavation in the Dongola Reach, Sudan," Current Anthropology, 9 (4): 319-323.

Marks, A. E. and T. R. Hays, and J. de Heffezelin, 1973, "Preliminary Report of the Southern Methodist University Expedition in the Dongola Reach," KUSH XV, Publication of the Sudanese Antiquities Service.

Hays, T. R., "The Significance of Wavy Line Pottery Along the Central Nile, Sudan," paper presented at the Conference of Africanist Archaeologists, April 16, 1971, University of Illinois, Urbana.

Hays, T. R., n.d., "An Examination of the Sudanese Neolithic," proceedings of the VIIth Pan African Congress, Addis Ababa, Ethiopia, in press.

Kennerly, T. E., T. R. Hellier, and T. R. Hays, 1971, "Environmental Impact Study of the Elm Fork of the Trinity River," Report submitted to the U.S. Corps of Engineers, mimeo.

Hays, T. R. and Fekri Hassan, 1974, "Mineralogical Analysis of Sudanese Neolithic Ceramics," Archaeometry, 16, 1: 71-79.

Hays, T. R., 1979, "Dispersal of Ceramics in Northeast Africa," paper presented at the IXth International Congress of Anthropological and Ethnological Sciences, September, 1973, Chicago, in West African Culture Dynamics, B. K. Swartz, ed., H. Mouton and Company, The Hague.

Hays, T. R. and E. Herrin, 1970, Archaeological Survey of the Texas Coast, report submitted to the Texas State Historical Committee, Austin.

Hays, T. R., 1971, "The Karmakol Industry," in The Prehistory and Geology of Northern Sudan, J. L. Shiner, ed., report to the National Science Foundation, mimeo.

Hays, T. R., 1974, "Wavy Line Pottery: An Element of Nilotic Diffusion," South African Archaeological Bulletin, 29: 27-32.

Hays, T. R., 1971, Review of The Booth Site: A Lake Archaic Campsite by W. E. Klippel, Missouri Archaeological Society, Research Series, No. 6 (1969), Plains Anthropologist.

Hays, T. R., n.d., "Ceramic Age Occupations in the Egyptian Sahara," manuscript based on research at Bir Sahara-Bir Terfawi, Egyptian Sahara, 1973.

Hays, T. R., n.d., "Late Prehistoric Occupations of the Egyptian Desert," paper presented at the Conference of Africanist Archaeologists, April 16, 1973, Southern Methodist University, Dallas, Texas.

Hays, T. R., 1975, "Neolithic Settlement Patterns in Saharan Africa," South African Archaeological Bulletin, 30: 29-33.

Hays, T. R., 1975, "Neolithic Settlement of the Sahara as it relates to the Nile Valley," in Problems in Prehistory: North Africa and the Levant, F. Wendorf and A. E. Marks, eds., Southern Methodist University Press, Dallas.

Hays, T. R., n.d., "Ceramic Analysis," in Field Methods in Archaeology, D. O. Henry and R. T. Trotter, eds., Marcel Dekker, Inc., New York, in press.

Hays, T. R., "Prehistoric Settlement Patterns in the Egyptian Sahara," paper presented at the 73rd Annual Meeting, American Anthropological Association, Mexico City, November, 1974.

Hays, T. R., 1976, "Predynastic Egypt: Recent Field Research," Current Anthropology, 17 (3): 552-4.

Sullivan, Tim, T. R. Hays, and G. K. Humphreys, 1976, "Archaeological Testing at the North Fork Reservoir District, Central Texas," report to the U.S. Corps of Engineers, Fort Worth District.

Hays, T. R., 1976, "The Egyptian Neolithic," paper presented at the IX Congress, International Union of Prehistoric and Proto-historic Sciences, September 13-18, 1976, Nice, France.

Hays, T. R., L. W. Morgan, and J. W. Thomson, 1977, "A Reexamination of the Archaic-Neo American Transition in North Central Texas," paper presented at the 42nd Annual Meeting of the Society of American Archaeologists, New Orleans, April, 1977.

Hays, T. R. and Richard E. Larson, 1978, "Cultural Resource Survey in the Malakoff-Cayuga Mining Area," report prepared for the North American Coal Corporation, July, 1978.

Hays, T. R. and Richard E. Larson, 1978, "Archaeological Testing in the Malakoff-Cayuga Mining Area," report prepared for the North American Coal Corporation, November, 1978.

Morenon, E. Pierre and T. R. Hays, 1978, "New Data from the Jornada Branch of the Mogollon," paper presented at the Society for American Archaeology Meeting, Tucson, Arizona, May 6, 1978.

Hays, T. R., 1978, "A Reappraisal of the Egyptian Predynastic," paper presented at the American Anthropological Association Meeting, Los Angeles, November 16, 1978.

CONSULTING
EXPERIENCE

- 1971: Cultural resource survey of Elm Fork of the Trinity River, U.S. Corps of Engineers.
- 1974: Underwater cultural resource surveys of oil lease blocks on Gulf of Mexico Outer Continental Shelf, U.S. Bureau of Land Management.
- 1975: Underwater cultural resource survey of portions of Corpus Christi Bay and Port Aransas Superport area, U.S. Corps of Engineers.

CONTRACTS
AWARDED

- 1975: Archaeological mitigation at Waurika Lake, Oklahoma, National Park Service.
- 1976: Cultural resource assessment of Pilot Grove Watershed, U.S. Soil Conservation Service.
Archaeological mitigation at Placitas Arroyo, New Mexico, National Park Service.
Archaeological testing at North Fork Reservoir, Texas, U.S. Army Corps of Engineers.
- 1977: Archaeological mitigation at Hog Creek, Texas, National Park Service (with University of Tulsa).
Archaeological mitigation in the San Gabriel Reservoir Districts, Central Texas, U.S. Corps of Engineers.
Cultural Resource Survey and Evaluation at La Salle Terminal, Matagorda Bay, Texas. El Paso LNG Terminal Company.
- 1978: Archaeological mitigation at Delaware Creek, Oklahoma, Heritage Conservation and Recreation Service.

PROFESSIONAL
SOCIETIES

Society for American Archaeology
American Anthropological Association
American Association for the Advancement of Science
Archaeological Institute of America
Society of Professional Archaeologists

TECHNICAL REPORTS

Hays, T. R. and D. E. Stevens, 1977 "Archaeological Mitigation at the Waukika Lake Reservoir, Southwestern Oklahoma", report submitted to Interagency Archeological Services, Department of the Interior, Denver.

Hays, T. R., D. O. Henry, and others, 1980 "The Prehistory of Hog Creek, Central Texas", report submitted to Interagency Archeological Services, Department of the Interior, Denver.

Hays, T. R. (editor), 1980 "Archaeological Investigations at the San Gabriel Reservoir Districts, Central Texas", draft report submitted to U. S. Corps of Engineers, Fort Worth District.

Hays, T. R. and F. E. Kirby, 1977 "Archaeological Testing at Hog Creek, Central Texas", report submitted to Interagency Archeological Services, Department of the Interior, Denver.

Hays, T. R., L. C. Fitzpatrick, and others, 1976 "Environmental Assessment Study in the Pilot Grove Creek Watershed, North Texas", report submitted to the U. S. Soil Conservation Service, Temple, Texas.

Hays, T. R., 1975 "An Archaeological Survey of Parts of the Attoyac Bayou Watershed, East Texas", report submitted to the U.S. Soil Conservation Service, Temple, Texas.

Hays, T. R. and Phil Oetking, 1975 "Magnetometer and Acoustic Profiling Survey of Intracoastal Waterway in Corpus Christi Bay", report submitted to U. S. Corps of Engineers, Galveston District.

Hays, T. R. and Phil Oetking, 1975 "Magnetometer Survey of the Borrow Areas for Corpus Christi Beach Restoration", report submitted to the U. S. Corps of Engineers, Galveston District.

Hays, T. R. and Phil Oetking, 1975 "Investigation of the Objects Causing Magnetic Anomalies in the Proposed Primary Borrow Area of the Corpus Christi Beach Restoration Project", report submitted to U. S. Corps of Engineers, Galveston District.

Hays, T. R. and Phil Oetking, 1975 "Investigation of Objects Causing Magnetic Anomalies in the Proposed Realignment Area of the Gulf Intracoastal Waterway in Corpus Christi Bay", report submitted to U. S. Corps of Engineers, Galveston District.

Hays, T. R., O. F. McCormick, and K. K. Gilmore, 1978 "Cultural Resource Survey at the La Salle Terminal, Matagorda Bay", report submitted to El Paso LNG Terminal Company, El Paso, Texas.

Hays, T. R., Olin McCormick and J. P. Gallagher, 1980, "Archaeological Investigations at Selected Power Pole Locations for the (UPA) 230 KV Transmission Line, Benton and Milles Lacs Counties, Minnesota." Center for Research Archaeology, La Crosse.

Hays, T. R., Duane E. Peter, and James P. Gallagher, 1980, "An Intensive Cultural Resource Survey of the Proposed Dairyland Power Cooperative Fly Ash Disposal Facility, Alma, Wisconsin." Center for Research Archaeology, La Crosse.

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