

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

FOR NPS USE ONLY  
RECEIVED MAY 30 1978  
DATE ENTERED DEC 20 1978

NATIONAL REGISTER OF HISTORIC PLACES  
INVENTORY -- NOMINATION FORM

SEE INSTRUCTIONS IN HOW TO COMPLETE NATIONAL REGISTER FORMS  
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC

AND/OR COMMON

Decorah Ice Cave

2 LOCATION

STREET & NUMBER

Ice Cave Road

NOT FOR PUBLICATION

CITY, TOWN

CONGRESSIONAL DISTRICT

Decorah

VICINITY OF

2nd

STATE

CODE

COUNTY

CODE

Iowa

Winneshiek

191

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE
<input type="checkbox"/> DISTRICT	<input checked="" type="checkbox"/> PUBLIC	<input type="checkbox"/> OCCUPIED	<input type="checkbox"/> AGRICULTURE <input type="checkbox"/> MUSEUM
<input type="checkbox"/> BUILDING(S)	<input type="checkbox"/> PRIVATE	<input checked="" type="checkbox"/> UNOCCUPIED	<input type="checkbox"/> COMMERCIAL <input type="checkbox"/> PARK
<input type="checkbox"/> STRUCTURE	<input type="checkbox"/> BOTH	<input type="checkbox"/> WORK IN PROGRESS	<input type="checkbox"/> EDUCATIONAL <input type="checkbox"/> PRIVATE RESIDENCE
<input checked="" type="checkbox"/> SITE	<b>PUBLIC ACQUISITION</b>	<b>ACCESSIBLE</b>	<input type="checkbox"/> ENTERTAINMENT <input type="checkbox"/> RELIGIOUS
<input type="checkbox"/> OBJECT	<input type="checkbox"/> IN PROCESS	<input type="checkbox"/> YES: RESTRICTED	<input type="checkbox"/> GOVERNMENT <input type="checkbox"/> SCIENTIFIC
	<input type="checkbox"/> BEING CONSIDERED	<input checked="" type="checkbox"/> YES: UNRESTRICTED	<input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> TRANSPORTATION
		<input type="checkbox"/> NO	<input type="checkbox"/> MILITARY <input checked="" type="checkbox"/> OTHER: City Park, State Preserve

4 OWNER OF PROPERTY

NAME

Park Commission, City of Decorah

STREET & NUMBER

Robert Hunt, Parks Mgr., 801 Park Drive

CITY, TOWN

STATE

Decorah

VICINITY OF

Iowa

52101

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE,  
REGISTRY OF DEEDS, ETC.

County Court House

STREET & NUMBER

CITY, TOWN

STATE

Decorah

Iowa

6 REPRESENTATION IN EXISTING SURVEYS

TITLE

DATE

FEDERAL STATE COUNTY LOCAL

DEPOSITORY FOR  
SURVEY RECORDS

CITY, TOWN

STATE

# 7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
<input checked="" type="checkbox"/> EXCELLENT	<input type="checkbox"/> DETERIORATED	<input checked="" type="checkbox"/> UNALTERED	<input type="checkbox"/> ORIGINAL SITE
<input type="checkbox"/> GOOD	<input type="checkbox"/> RUINS	<input type="checkbox"/> ALTERED	<input type="checkbox"/> MOVED    DATE _____
<input type="checkbox"/> FAIR	<input type="checkbox"/> UNEXPOSED		

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## DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

The Decorah Ice Cave is located at the base of a limestone cliff about a hundred yards north of the Upper Iowa River in a wild and natural area which is a part of the Decorah Park System. The cave is a system of crevices about 200 feet long and 15 feet deep, apparently formed by slumping of the Galena limestone on the underlying Decorah shale, probably aided by ice wedging during glacial periods.

The cave is dry during fall and early winter. Ice first forms near the entrance in January or February and then at lower and lower levels until it reaches the lowest chamber where maximum accumulation of ice occurs late in May with a thickness of several inches on the north wall. Ice often remains on this wall until late August.

The cave and the area surrounding it are probably in almost the same condition as when first seen by white men, except for the addition of rock steps constructed near the entrance about 1930, and a few footpaths.

The Ice Cave lies inside an area of 2.9 acres which has been dedicated as an Iowa State Preserve. The area includes a number of other caves and crevices. It also is one of the best exposures in the area for viewing the contact between the Galena limestone and the Decorah shale. The lowest 85 feet of Galena strata are well exposed at this location and easily accessible for close observation.

The Ice Cave Preserve is surrounded on all sides by City Park property which is in a wild and natural state. An unpaved road maintained by the county runs east-west along the south edge of the preserve.

# 8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW			
<input type="checkbox"/> PREHISTORIC	<input type="checkbox"/> ARCHEOLOGY-PREHISTORIC	<input type="checkbox"/> COMMUNITY PLANNING	<input type="checkbox"/> LANDSCAPE ARCHITECTURE	<input type="checkbox"/> RELIGION
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> ARCHEOLOGY-HISTORIC	<input checked="" type="checkbox"/> CONSERVATION	<input type="checkbox"/> LAW	<input checked="" type="checkbox"/> SCIENCE
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> ECONOMICS	<input type="checkbox"/> LITERATURE	<input type="checkbox"/> SCULPTURE
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> ARCHITECTURE	<input type="checkbox"/> EDUCATION	<input type="checkbox"/> MILITARY	<input type="checkbox"/> SOCIAL/HUMANITARIAN
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> ART	<input type="checkbox"/> ENGINEERING	<input type="checkbox"/> MUSIC	<input type="checkbox"/> THEATER
<input checked="" type="checkbox"/> 1800-1899	<input type="checkbox"/> COMMERCE	<input type="checkbox"/> EXPLORATION/SETTLEMENT	<input type="checkbox"/> PHILOSOPHY	<input type="checkbox"/> TRANSPORTATION
<input type="checkbox"/> 1900-	<input type="checkbox"/> COMMUNICATIONS	<input type="checkbox"/> INDUSTRY	<input type="checkbox"/> POLITICS/GOVERNMENT	<input type="checkbox"/> OTHER (SPECIFY)
		<input type="checkbox"/> INVENTION		

SPECIFIC DATES

BUILDER/ARCHITECT

## STATEMENT OF SIGNIFICANCE

Nomination of this site will appropriately recognize scientific investigations that led to the prevailing theory of ice cave formation by Alois Kovarik in 1898. The Ice Cave at Decorah was a fitting subject for the research because, unlike most caves, ice usually forms within the cave in the Spring and attains a thickness of 8-10 inches by early summer before disappearing in September. The history of early scientific research at the cave has been summarized by George E. Knudson and James Hedges (1973). They state in part:

The Ice cave at Decorah, Iowa, is the largest known glaciere in North America east of the Black Hills and the subject of much international speculation during the latter half of the nineteenth century.

In 1860, only 12 years after the first white settlers arrived in the area, a note was published in the Scientific American commenting on the unusual behavior of the cave. Over the next 40 years a long series of articles in this and other scientific publications speculated on the possible mechanisms of ice formation and brought international recognition to the cave. The series culminated in an article in 1898 in the Scientific American Supplement by Alois Kovarik, who proposed a mechanism which was accepted by the leading authorities of the day and which still seems to be the most reasonable explanation of the phenomenon.

Over a three-year period, 1897-99, Alois Kovarik made frequent observations at the cave, collected meteorological information and published the data in articles... He explained that cold air circulates freely through the cave in winter, cooling the rocks to a temperature below the freezing point of water. The warmed air ascends out of the cave through fissures in the roof. Moisture in the air produces a coating of hoarfrost in some locations but production of thick layers of ice must await the arrival of water following a thawing of the bluff surface above. Since the nouth of the cave is higher than the ice chamber, cold air is trapped in the interior in the summer, there is little circulation to bring in heat, and ice is able to persist until August or September.

Kovarik, who was born is Spillville, about twelve miles from Decorah, was an 18-year-old instructor in the Decorah Institute when he made his observations and published his first scientific paper. His reports on the Ice Cave were the first of a long series of scientific publications, as he went on to...achieve international recognition as a nuclear physicist while a professor at Yale University.

# 9 MAJOR BIBLIOGRAPHICAL REFERENCES

- Balch, E.S. Glaciers or Freezing Caverns. Philadelphia: Allen Lane and Scott, 1900.  
 Calvin, Samuel. Geology of Winneshiek County. Iowa City: Iowa Geological Survey, Annual Report 16: 37-146 (1900).  
 Kovarik, Alois. Decorah Ice Cave and its Explanation. Scientific American Supplement 1195, pp. 19158-19159 (1898).  
 Knudson, George, and James Hedges. "Decorah Ice Cave State Preserve," Proceedings of the Iowa Academy of Science, 80(4): 178-181 (1973)

# 10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY 2.9 acres

UTM REFERENCES

A	<u>15</u>	<u>598600</u>	<u>4795800</u>	B			
	ZONE	EASTING	NORTHING		ZONE	EASTING	NORTHING
C				D			

## VERBAL BOUNDARY DESCRIPTION

Property is located in the NW $\frac{1}{4}$  of the NW $\frac{1}{4}$  Sec. 15-98-8. The preserve boundary begins 210 feet east of the western edge of this quarter-quarter section, and runs 150 feet north from the north side of Cave Road, then 560 feet east, then 300 feet south to Cave Road. The southern boundary of the preserve is Cave Road.

## LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

# 11 FORM PREPARED BY

NAME / TITLE

George E. Knudson, Professor of Chemistry

ORGANIZATION

Luther College

DATE

Oct. 14, 1974

STREET & NUMBER

TELEPHONE

CITY OR TOWN

Decorah

STATE

Iowa 52101

# 12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL  STATE  LOCAL

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

STATE HISTORIC PRESERVATION OFFICER SIGNATURE

*Adrian A. Anderson*

TITLE

Director, Division of Historic Preservation

DATE

5/19/78

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION

ATTEST: *William L. Howell*

DATE

12/20/78

KEEPER OF THE NATIONAL REGISTER

DATE

12/18/78

KEEPER OF THE NATIONAL REGISTER