A Study of the Recreational Impact on Nolin Flood Control Reservoir in West Central Kentucky

Afolabi Adedibu

Follow this and additional works at: http://digitalcommons.wku.edu/theses

Part of the Economics Commons, Geographic Information Sciences Commons, Nature and Society Relations Commons, Place and Environment Commons, Recreation, Parks and Tourism Administration Commons, and the Tourism Commons

Recommended Citation
http://digitalcommons.wku.edu/theses/1212

This Thesis is brought to you for free and open access by TopSCHOLAR®. It has been accepted for inclusion in Masters Theses & Specialist Projects by an authorized administrator of TopSCHOLAR®. For more information, please contact topscholar@wku.edu.
A STUDY OF THE RECREATIONAL IMPACT
ON NOLIN FLOOD CONTROL RESERVOIR
IN WEST CENTRAL KENTUCKY

A Thesis
Presented to
the Faculty of the Department of Geography
Western Kentucky University
Bowling Green, Kentucky

In Partial Fulfillment
of the Requirements for the Degree
Master of Science

by
Afolabi Adegbite Adedibu
May 1975
A STUDY OF THE RECREATIONAL IMPACT ON NOLIN FLOOD CONTROL RESERVOIR IN WEST CENTRAL KENTUCKY

Recommended April 15, 1975
Wayne L. Hoffman
Director of Thesis
James L. Davis
James M. Brigham
F. E. Lefever

Approved 4-18-75
Dean of the Graduate College
ACKNOWLEDGMENTS

The author wishes to thank all those who have given advice, encouragement, assistance and criticism toward the completion of this thesis. Special thanks to Dr. Wayne Hoffman for his labor in checking and rechecking the manuscripts, and for helping the author in obtaining a grant to conduct the study. Special thanks also, to the members of my committee, Dr. James L. Davis, Dr. Edmund E. Hegen and Mr. James Bingham. Special gratitude is also due Mr. Howley, of the U. S. Army Corps of Engineers district office at Louisville for providing the author the attendance records of Nolin. Douglas Tucker should accept my gratitude for his help in taking the pictures. My gratitude will never be complete without acknowledging the help of Ms. Peggy Cornell, Mrs. Betsy Lowrey, and Mrs. De Foster for their help in typing the thesis.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>LIST OF GRAPHS</th>
<th>vi</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIST OF MAPS</td>
<td>vii</td>
</tr>
<tr>
<td>LIST OF PLATES</td>
<td>viii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>ix</td>
</tr>
</tbody>
</table>

Chapter

I. A STUDY OF THE RECREATIONAL IMPACT ON NOLIN FLOOD CONTROL RESERVOIR IN WEST CENTRAL KENTUCKY.............. 1

  Introduction.................................................. 1
  Purpose of the Study............................................ 3
  Major Agencies Involved in Water Based Recreation................................. 3
  Land Acquisition and Management........................................ 4
  Consideration of Factors Affecting Intensity and Specialization of Activities on A Reservoir............ 5
  Some Effects of Multi-purpose Reservoirs on Local Areas.............................................. 6
  Summary........................................................................ 8
  Notes........................................................................... 9

II. SETTING AND METHODOLOGY.............................................. 12

  Setting........................................................................ 12
  Nolin River and Its Tributaries.......................................... 12
  Nolin Basin Historical Background..................................... 14
  Selecting of Dam Sites and Purchasing of Land............................... 17
  Community Attitude Toward the Construction of the Reservoir......................... 19
  Methodology................................................................... 20
  Summary.......................................................................... 20
  Notes............................................................................. 22

III. RECREATIONAL USE OF NOLIN RESERVOIR BASIN.............. 23

  Administration of Recreation Facilities........................................ 23
  Attendance and Participation in Recreation Activities................................. 26
  Physical Description and Factors Affecting Attendance at Each Public Recreation Center............ 29
### Chapter

<table>
<thead>
<tr>
<th>Area I</th>
<th>Dam Area</th>
<th>29</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area II</td>
<td>Dickey's Mill</td>
<td>32</td>
</tr>
<tr>
<td>Area III</td>
<td>Iberia</td>
<td>32</td>
</tr>
<tr>
<td>Area IV</td>
<td>Dog Creek</td>
<td>32</td>
</tr>
<tr>
<td>Area V</td>
<td>Wax</td>
<td>33</td>
</tr>
<tr>
<td>Area VI</td>
<td>Moutardier</td>
<td>34</td>
</tr>
<tr>
<td>Area VII</td>
<td>Brier Creek</td>
<td>36</td>
</tr>
<tr>
<td>Summary</td>
<td></td>
<td>40</td>
</tr>
</tbody>
</table>

#### IV. IMPACT OF RECREATION ON NOLIN LAND OWNERSHIP AND VALUE

- Acquisition and the Impact of Army's Land on Nolin | 41
- Changes in Land Value as a Result of Recreational Use | 43
- The Subdivision | 45
- Private Land Owners | 48
- Absentee Owners | 48
- Summary | 49
- Notes | 50

#### V. SUMMARY AND CONCLUSIONS

- Summary | 51
- Conclusions and Recommendations | 53
- Areas of Further Studies | 55

APPENDIX A | 56
APPENDIX B | 64
APPENDIX C | 66
REFERENCES CITED | 68
INTERVIEW | 70
## LIST OF GRAPHS

<table>
<thead>
<tr>
<th>Graph</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Total Attendance at Nolin Reservoir 1965-1974</td>
<td>28</td>
</tr>
</tbody>
</table>
# LIST OF MAPS

<table>
<thead>
<tr>
<th>Map</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Nolin Reservoir General Location</td>
<td>13</td>
</tr>
<tr>
<td>2. Proposed Reservoir Areas With County Boundaries</td>
<td>15a</td>
</tr>
<tr>
<td>3. Nolin River Tributaries and Cultural Feature Relocations</td>
<td>15b</td>
</tr>
<tr>
<td>4. Nolin Basin Land Use 1975</td>
<td>24</td>
</tr>
<tr>
<td>5. Nolin Reservoir Public Use Areas</td>
<td>30</td>
</tr>
<tr>
<td>6. Nolin Basin Land Ownership 1975</td>
<td>42</td>
</tr>
<tr>
<td>Plate</td>
<td>Page</td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>1. a. Rough Topography at Dam Area</td>
<td>31</td>
</tr>
<tr>
<td>b. Administrative Office Over the Rugged Topography</td>
<td>31</td>
</tr>
<tr>
<td>2. Site Where Dirt and Rocks Were Hauled Away</td>
<td>34</td>
</tr>
<tr>
<td>3. a. Culley Formation at Wax</td>
<td>35</td>
</tr>
<tr>
<td>b. Work of Erosion in Public Use Area at Wax</td>
<td>35</td>
</tr>
<tr>
<td>4. Overuse of Public Use Area at Moutardier</td>
<td>37</td>
</tr>
<tr>
<td>5. a. Typical Nolin Recreation Homes Along the Shoreline of the Reservoir</td>
<td>47</td>
</tr>
<tr>
<td>b. Typical Look of A Subdivision on Nolin</td>
<td>47</td>
</tr>
</tbody>
</table>
## LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Geographers' Work in Recreation 1930-1967</td>
<td>2</td>
</tr>
<tr>
<td>2. Land and Damage Cost for Nolin Reservoir</td>
<td>18</td>
</tr>
<tr>
<td>3. Relocation of Roads, Utility Lines, and Cemeteries</td>
<td>19</td>
</tr>
<tr>
<td>4. Facilities Provided in Public Use Areas</td>
<td>27</td>
</tr>
<tr>
<td>5. Demand Facilities on Nolin Reservoir</td>
<td>39</td>
</tr>
</tbody>
</table>
A STUDY OF THE RECREATIONAL IMPACT ON NOLIN FLOOD
CONTROL RESERVOIR IN WEST CENTRAL KENTUCKY

Afolabi Adegbite Adedibu May 1975 70 pages
Directed by: Wayne L. Hoffman, J. L. Davis, E. E. Hegen and J. Bingham
Department of Geography Western Kentucky University

The purposes of this study are: (1) to consider factors that influenced the creation of Nolin Reservoir, and the selection of its recreation sites, (2) to consider the growth and the variations in attendance and participation in activities as a function of quantity and quality of available facilities and accessibility, and (3) to trace the changes that the creation of the reservoir has brought on the surrounding land use, value and ownership. Through the use of questionnaires, interviews and field investigations, the purposes were accomplished.

Nolin Reservoir was constructed by the Army Corps of Engineers. After extensive study, the cost and availability of materials for construction were found to be the major factors in selecting the dam site and public use areas.

Attendance and participation at the reservoir and at particular recreation sites were found to vary. Such factors as the physical setting, accessibility, quantity and quality of facilities, and distance of each center to an urban area were found to have played significant roles in the analysis.

Tracing the changes in land use, value and ownership, it was determined that agricultural use has been converted into recreational use. This change has brought about other changes.
Land values began to rise. In eleven years (1964-1974), land values have increased about 500 percent. The increase in land value had induced many types of land ownerships in the basin. Developers became active, and subdivisions were introduced in 1964. By 1974, there were 75 subdivisions in the basin. Many farmers converted their arable land into housing development and commercial uses of land have also developed.
A STUDY OF THE RECREATIONAL IMPACT ON NOLIN FLOOD CONTROL RESERVOIR IN WEST CENTRAL KENTUCKY

INTRODUCTION

Recreation, the revitalization and restoration of man's life in his biotic and physical environment, has not been a major field of study to geographers in the past. Many geographers believed that there were insufficient materials to study and that the field of recreation belonged to other disciplines.1

The lack of interest in recreation geography changed, however, in the early 20th century when an increase in population, shorter work weeks, an increase in income, and the mass distribution of the automobile produced a need and demand for leisure activity. Geographers soon realized that recreation was dependent upon and affected by numerous spatial phenomena.

From 1930-1967, there were one hundred and forty studies completed by geographers on recreation or related topics (see Table I). The subject of these articles, theses and dissertations centered on descriptions of recreation areas, techniques of studying recreational phenomena, the relationships between resources and recreation, recreational land use, recreational problems, recreational travels, and perception of recreational phenomena.2
TABLE 1

GEOGRAPHERS' WORK IN RECREATION 1930-1967

<table>
<thead>
<tr>
<th>Time</th>
<th>Articles</th>
<th>Theses and Dissertations</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1930-1939</td>
<td>8</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>1940-1949</td>
<td>9</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>1950-1959</td>
<td>12</td>
<td>34</td>
<td>46</td>
</tr>
<tr>
<td>1960-1967</td>
<td>17</td>
<td>48</td>
<td>75</td>
</tr>
</tbody>
</table>


In addition to the above mentioned topics, more recent studies have concentrated on the cause and effect of leisure activities. Wolfe noted this trend when he divided recreation geography into two general types. Macrogeographic recreation, which involves national and international recreation patterns; and microgeographic recreation, which involves local and regional patterns. Both types include field work, gathering and analyzing of statistical data, and cartographic analysis. These three research techniques enable geographers to determine the factors that lead to the creation of recreation areas. The effects of such recreation areas on the locality in which they are situated can also be determined.

Since water is a focal point of outdoor recreation, researchers have placed greater emphasis on water based activities. The creation of multi-purpose reservoirs in particular has provided substantial amounts of needed recreation which has had tremendous impact on local economies. The development of a reservoir can change the total outlook of an area. One example of such a facility is Nolin Reservoir in west central Kentucky.
Purpose of the Study

The purposes of this study are: (1) to consider the factors that influenced the creation of Nolin Reservoir, and the selection of its recreation sites, (2) to consider the growth and the variations in attendance and participation in activities as a function of quantity and quality of available facilities and accessibility and (3) to trace the changes that the creation of the reservoir has brought on the surrounding land use, value and ownership. These purposes will be accomplished through the interpretation of land ownership maps, various land use data, and personal interviews with residents of Nolin Basin.

The remaining portion of this chapter will be devoted to a survey of the major governmental agencies providing water based recreation. Literature dealing with the effects of multi-purpose reservoirs on the local economy as well as the factors that affect attendance and participation at such a facility will also be reviewed.

Major Agencies Involved in Water Based Recreation

Since an average American has about three weeks of paid vacation, seven days of National holidays, and about forty-nine weekends for leisure activities, the demand for increased recreation activities is evident. Through the creation of multi-purpose reservoirs, a considerable portion of this demand can be met.

Government agencies providing water based recreation facilities include the Corps of Engineers, the Bureau of Land
Management, the United States Forestry Service, the National Park Service, the Fish and Wild Life Service, the Bureau of Reclamation, and the Tennessee Valley Authority. Of these agencies, the most active in recreation activity has been the Corps of Engineers.

The Army Corps of Engineers, realizing the greater need for water based recreation, began to provide recreation facilities on its flood control reservoirs in the 1940's. This agency soon surpassed others in serving the public. In 1950, about 16 million people visited and participated in some recreation activities on Corps' reservoirs, while in 1970, the total number of visitors and participants increased to 276 million. As attendance increased, so did the number of multi-purpose reservoirs constructed by the Army Corps of Engineers. In 1971, there were 300 reservoirs; an additional 103 dams have been approved, but have not yet been constructed.

**Land Acquisition and Management**

Government at all levels has the power to acquire land for recreation; but the federal government has an additional power which enables it to take any land needed for recreation without considering local government. Land acquired in this manner by the federal government can not be engaged for private use. The acquisition of any land for recreation can either be by purchase or lease. Land that is directly affected by the reservoir would be purchased, while the land that is indirectly affected would either be leased or purchased.
The decision of which land to purchase and which to lease is usually made in seven steps: First, the preliminary selection of the center of activities must be determined. Second, the understanding of the regional setting and survey of the local areas to determine the public use areas is necessary. Third, the appraisal of factors which must be considered in recommending the purchase boundaries of special concern should be analyzed. Fourth, maps should be made to bring into focus the total area involved in the project. Fifth, the final recommendation of the land to be purchased or leased should be made. The sixth and seventh steps involve the relocation of the improvements and the beginning of construction of the recreation facilities. The management of such reservoirs so constructed depend totally on the agencies involved. The guiding laws vary from one agency to the other, but all have the provision for public use on their reservoirs.

Consideration of Factors Affecting Intensity of Use and Specialization of Activities on a Reservoir

Recreation land use can be clustered into three general groups based on facilities and accessibility. First, intensive land use, which characterizes urban parks and national parks linked by highway and reservoir areas with full accessibility; second, extensive land use, which characterizes the wilderness; and third, special activities use, which characterizes such activities as winter sports, water skiing, skin diving, swimming pools, and golf courses.
Powell has suggested that there are meteorological factors determining the intensity of attendance and participation in any recreation area. He concluded that people participate more in summer than in winter. This may not be attributed wholly to meteorological factors. Most Americans have their vacation in summer, and most students are out of school.

Considering other factors that influence the usage of a recreation area, Ward concluded that intensive use occurs because people are restricted to certain areas adjacent to reservoir areas. The picnic areas, trails, and camp-sites are only a few examples of areas of use. Dealing with reservoirs, Burby has considered the factors that lead to the concentration of recreational residences in any reservoir area. He concludes that three main factors influence the location of such residences on any reservoir: speculators, laws of the government, and the interest of the private entrepreneur themselves.

The specialization of activities on a given reservoir are dependent on such factors as distance from an urban area, the age group of the visitors, and facilities provided. Knetsch suggests that higher attendance and participation in activities involving water is associated with availability of beaches.

Some Effects of Multi-purpose Reservoirs on Local Areas

Many studies have been conducted on the effects of multipurpose reservoirs on the surrounding area. Since the returns from recreation may not be tangible, the value derived from it
is very difficult to measure. Although there are no general agreed methods of deriving the value of recreation, many people believe that it is the direct satisfaction derived by the individuals.20 Since the actual monetary value cannot be determined, researchers measure changes that occur in the economy of the area. Land value, the change in per capita income, change in occupation, and physical developments are a few of the ways benefits derived can be measured.

Knetsch, an economist, has done many studies on the influence of reservoirs on the value of land.21 In one of his studies he concludes that land close to the reservoir usually has a higher value than land farther away.22 This obviously is due to the fact that many users prefer to be close to the water and its amenities. He further states that the increase in value of land adjacent to reservoirs may not be entirely independent of the other project benefits, but may represent a capitalization of a portion of benefits. The economic effects of water resources development projects may then be more fully appraised by taking into account the changing land value.23 However, the identification of benefits in the form of an increase in land value is important for evaluation of individual reservoirs.

The construction of multi-purpose reservoirs obviously affects more than land value. Investigating the interaction of the local populous on a reservoir area to find the economic and social impacts of reservoir construction, Stanfield found that construction produced increases in the income and interactions between the people.24 Miller, in his study of lakes
in the Tennessee Valley Authority area, considered their effects on the economy. He found that the retail trade in one area increased by seven percent.

Summary

Recreation has not been a major field of study for geographers in the past. Many geographers believed that there were insufficient materials to study and that the field of recreation belonged to other disciplines. This lack of interest in recreation geography changed, however, in the early 20th century when geographers realized that there were numerous spatial phenomena to study.

Recently, geographers have sought to establish cause and effect relationships in recreation areas. Since the greater need for recreation became apparent, many governmental agencies have become involved in providing water based recreation. The Army Corps of Engineers led all agencies in providing the needed recreation for the public on their 300 multi-purpose reservoirs. Many studies on the impact of reservoir construction on an area have concluded that the construction of multi-purpose reservoirs often change the economy and social structure of the area where they are located. The factors that affect attendance and participation, such as facilities, accessibility and distance from the urban area have also been studied in detail.
NOTES


8Ibid.


10Ibid.


16 Ibid., p. 369.


22 Ibid.

23 Ibid.

CHAPTER II

SETTING AND METHODOLOGY

Setting

Nolin River, the fourth largest tributary of Green River, has a reservoir impounded within Edmonson, Grayson, and Hart Counties in west central Kentucky. The reservoir is located about seventy miles south of Louisville, the largest city in Kentucky. Thirty-five miles southwest of the reservoir is Bowling Green, one of the larger cities in Kentucky. Nashville, Tennessee is ninety miles south while Evansville, Indiana is located ninety miles to the northwest (see Map I). Nolin Reservoir is surrounded by a network of major highways. Interstate 1-65, the Western Kentucky Parkway, and the Green River Parkway form a triangle in which the reservoir is enclosed (see Map I).

Nolin River and Its Tributaries

The Nolin River rises in Larue County, draining a large portion of the county with a system of feeder streams which form two forks. The north fork of the river drains the northern part of Larue County, and the south fork forms the main Nolin River. The river flows westward to Hardin County where it is joined by Middle Creek, Pup Run, Jackson Branch and Valley Creek. It then flows through Elizabethtown where
it changes direction of flow southward until it reaches Grayson County.

The river forms the boundary of Grayson, Hart, and Hardin counties and then flows south into Edmonson County where it becomes the inlet of several creeks. Davis Creek, Camp Creek, Colonoway Creek, Dog Creek, Long Fall Creek, and Brier Creek are just a few of the tributaries in Edmonson County (see Map 2).

Nolin drains about 727 square miles of land, and the watershed is almost rectangular in shape. The river is about forty-three miles in length and its basin averages about seven miles in breadth. The average gradient of the river is 4.2 feet per mile, but the lower ten miles average about one foot per mile. The valleys in Nolin Basin are generally entrenched with steep sided slopes which have great scenic values. The valleys are narrow and not often used for agricultural activity. The land along the hill sides is used for grazing and small areas are tilled on a rotational basis. The average tobacco allotment for cash crop farms is about 0.6 acres.

Nolin Basin Historical Background

Before the white man came, the Indians had settled in the area. This fact is evidenced by the Indian relics found in the basin. The Brier Creek and Dog Creek areas are two of the most important sites famous for their relics.

The Nolin Basin was permanently settled by a group of hunters and fishermen in the later 1700's, but the name Nolin
NOLIN RIVER TRIBUTARIES AND CULTURAL FEATURE RELOCATIONS
was not coined before the early 19th century after the death of Benjamin Lynn. Benjamin Lynn lost his life while hunting for game. His group members after searching for a considerable length of time concluded that he was either killed and devoured by wild animals or was drowned in the creek. In honor of his memory the area where he was lost was named "No Lynn" which later became Nolin.

Nolin Basin for several years after settlement remained purely an agricultural area and land ownership remained private. The trend would have continued if not for a series of floods in the Ohio-Mississippi basin in the 1920's. These floods induced the federal government to order that a study be conducted to find solutions to the annual inundation that brought damages to homes and crops of the basin. One of the possible solutions suggested was the construction of flood control reservoirs on several rivers in the basin.

In 1931, "Report 308" was submitted to the federal government on the possibility of dam construction on the Green, Barren, and Rough rivers, but no mention was made of Nolin. A revised report "308" was, however, submitted by the Army Corps of Engineers about the Ohio River basin in 1933. In this report Nolin River was first mentioned as suitable for flood control construction. Though a public hearing was not required for construction of flood control reservoirs, a hearing was held on September 18, 1936, at Brownsville, Kentucky to obtain necessary information for the final decision on the authorization of the dam.
In 1937, Congress authorized the construction of the dam by the Army Corps of Engineers. From this time on the construction and management of the reservoir was trusted to the Corps.

**Selection of Dam Sites and Purchase of Land**

Inventories upon inventories were made in Nolin Basin after Congress authorized the construction of the reservoir to determine the actual potential of the proposed flood control reservoir. In 1956, a semi-final decision was made and preparation for the dam construction began. Three construction sites were suggested: the first, located nine miles upstream from the confluence of Green and Nolin rivers; the second, 8.2 miles upstream; and the third, 7.8 miles upstream from the confluence. The last suggestion was chosen for many reasons. There was an ample supply of rocks in this area to aid construction. The topography of this area favored the construction of the spillway, and construction of the dam was 20-25 percent cheaper when compared with the other two sites.

A survey of Nolin Basin was made in late 1956 to determine land values and to delimit the areas that would be flooded by the reservoir. The survey revealed that the average value of an acre of land was $55. An addition of about $25 to $30 was made as an improvement cost which raised the gross value of the land per acre to be about $80.

The Army Corps of Engineers proposed to buy 11,000 acres of land that would be affected by the reservoir, and they
based the purchase of the land on the result of the survey (see Table 2). The value of the land, however, varied considerably dependent on its location and prior use. For example, land close to the river with full possibility of inundation cost more than the land on the hillsides. Land costs, relocation of farms, churches, schools, resettlement of families, and damages incurred during the relocation totaled $2,125,000.

**TABLE 2**

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fee title land and improvement</td>
<td>11,000 acres</td>
<td>$605,000</td>
</tr>
<tr>
<td>Flowage easement</td>
<td>5,700 acres</td>
<td>157,000</td>
</tr>
<tr>
<td>Improvements to elevation 568 ft.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Farms</td>
<td>127</td>
<td>445,000</td>
</tr>
<tr>
<td>b. Churches</td>
<td>2</td>
<td>33,000</td>
</tr>
<tr>
<td>c. Schools</td>
<td>3</td>
<td>32,000</td>
</tr>
<tr>
<td>d. Stores</td>
<td>1</td>
<td>9,000</td>
</tr>
<tr>
<td>Damages</td>
<td></td>
<td>180,000</td>
</tr>
<tr>
<td>Acquisition Cost</td>
<td></td>
<td>380,000</td>
</tr>
<tr>
<td>Resettlement</td>
<td></td>
<td>65,000</td>
</tr>
<tr>
<td>Contingencies</td>
<td></td>
<td>219,000</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>$2,125,000</strong></td>
</tr>
</tbody>
</table>


Other relocations of local government and state government properties like roads, utility lines, cemeteries and the construction of new roads to provide free access to the reservoir totaled $4,520,000 (see Table 3).
TABLE 3

RELOCATION OF ROADS, UTILITY LINES, AND CEMETERIES

<table>
<thead>
<tr>
<th>Item Relocated</th>
<th>Length in Miles</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kentucky Hwy. 88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iberia area</td>
<td>1.55</td>
<td>$828,000</td>
</tr>
<tr>
<td>Nolin - Wax</td>
<td>.83</td>
<td>589,000</td>
</tr>
<tr>
<td>Kentucky Hwy. 1214</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snap</td>
<td>3.66</td>
<td>953,000</td>
</tr>
<tr>
<td>Nolin River</td>
<td>.37</td>
<td>239,000</td>
</tr>
<tr>
<td>Kentucky Hwy. 479</td>
<td>.60</td>
<td>35,000</td>
</tr>
<tr>
<td>Kentucky 728</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roseburg</td>
<td>.28</td>
<td>266,000</td>
</tr>
<tr>
<td>Line Milles</td>
<td>.70</td>
<td>200,000</td>
</tr>
<tr>
<td>County Roads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hunting Fork Road</td>
<td>.78</td>
<td>97,000</td>
</tr>
<tr>
<td>Rock Creek</td>
<td>.20</td>
<td>36,000</td>
</tr>
<tr>
<td>Dog Creek</td>
<td>.53</td>
<td>491,000</td>
</tr>
<tr>
<td>Cemeteries</td>
<td>700 graves</td>
<td>80,000</td>
</tr>
<tr>
<td>Utility lines</td>
<td></td>
<td>30,000</td>
</tr>
<tr>
<td>Service lines</td>
<td></td>
<td>85,000</td>
</tr>
<tr>
<td>Contingencies</td>
<td></td>
<td>589,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$4,520,000</strong></td>
</tr>
</tbody>
</table>


Community Attitude Toward the Construction of the Reservoir

Newspaper articles were written at the time of the construction indicating that the establishment of the reservoir would have a positive effect on the local economy. Reflecting community expectation, commercial and recreational activities were projected to dominate Nolin Basin in the future.5

Since these projections in 1962 and 1963, Nolin Basin has gone through many changes. The recreational facilities provided by the Army Corps of Engineers have altered land use from agricultural to recreational. Moreover, commercial activity is increasing within the basin.
Methodology

The data for this study were provided by three main sources: field investigation, interviews, and records kept by the Army Corps of Engineers. Field maps were constructed by the author and questionnaires distributed on numerous field trips. Though the Army Corps of Engineers has done considerable work in this area, no maps showing land use and ownership have been produced. Questionnaires were distributed to thirty private land owners and developers in the basin. Eighteen of the questionnaires were completed and the results compared with the county records.

Interviews with government officials in Edmonson, Grayson, and Hart counties, with officials of the Army Corps of Engineers, and many private owners aided in evaluating the development that has occurred. In addition, the interviews aided in arriving at a conclusion about what various groups of people think about the change in the basin.

The records of attendance and participation kept by the Army Corps of Engineers were obtained. Attendance and participation data from 1965 to 1974 were utilized.

Summary

Nolin River, the fourth largest tributary of Green River, is located entirely in the state of Kentucky. The river drains 727 square miles. The construction of a dam on this river was authorized by the Congress in 1937. Though authorized in 1937, construction of the dam did not begin until late 1960 and was not completed until March of 1963.
During its construction, many articles were written about the reservoir. These articles predicted that the reservoir would significantly change the economy of the basin. Since that time many changes have occurred in the area.

The data for the study were provided by three main sources: field maps and questionnaires; interviews with various people in the basin, both government officials and citizens; and data collected from the Army Corps of Engineers.
NOTES


3 ibid.


CHAPTER III

RECREATIONAL USE OF NOLIN RESERVOIR BASIN

The Nolin Reservoir Basin was a totally rural and agricultural area from its settlement about 1775 until the early 1960's. The construction of a multi-purpose reservoir has brought about many changes in the land use of the basin. Since 1963, when reservoir construction was completed, land use has been changing from agricultural to recreational use. This trend is so pronounced that most of the land adjacent to the reservoir is now almost totally used for recreation (see Map 3).

The land uses of the basin show this pattern. The land adjacent to the reservoir is mainly for public use or used as a game reserve. The second zone is mainly private recreational areas with homes and various recreation facilities. The third zone is essentially reserved for agricultural and woodland use (see Map 3).

Administration of Recreation Facilities

Since the reservoir has been approved for recreational use, there has been a governing body to insist that activities on the reservoir are provided and properly maintained. All multi-purpose reservoirs operate under the same set of administrative procedures, although they are operated by different federal agencies.
The management of Nolin Reservoir is entirely controlled by the Army Corps of Engineers. The Corps has two methods—direct and indirect—for managing the reservoir. The Army uses direct control for all public use areas, and all land enclosed within the property line (termed the red line).

Indirect control of the reservoir takes three forms: permit, license, and lease.

The Army issues free annual renewable permits to local people who own property adjacent to the reservoir to operate minor private recreation facilities. The forty-six private docks on the reservoir are under this type of indirect control. The permit enables local people to construct docks by their property for launching their boats. Licensing is a method used for those who want to establish major facilities along the shoreline. Road construction to the shoreline, extension of powerlines, and the construction of private boat ramps are examples. Unlike the permit, a license involves money, and a fee of $50.00 is charged for its issuance. Licenses are renewable every five years.

The leasing procedure is used mainly for those who use the Corps' land. Commercial establishments and agriculture are involved in this procedure. There are 4.5 acres of land at Wax and 29.2 acres at Moutardier under the lease procedure. The profit made by the concessionnaires are shared annually with the Corps of Engineers. The small farms within the property line are also under lease. These farmers usually leave a third of their harvest for wildlife feed to settle their account.
Since the state government has no direct interest in developing Nolin, and since the Army Corps of Engineers is the only agency controlling the reservoir (directly or indirectly), it provides most of the limited recreation facilities (see Table 4). Since facilities are limited, they are generally overused and damaged.

**Attendance and Participation in Recreation Activities**

From the time Nolin Reservoir was opened to the public in 1963, attendance and participation records have been kept. The Army uses traffic counters at the major entrances of the public use areas to determine attendance. These counters record vehicles upon entry and exit.

In 1963 and 1965 attendance was limited. The reservoir's water level had not reached a stage to allow full use and participation by visitors. In 1965, attendance had risen considerably with 305,600 individuals recorded (see Appendix A). Attendance in 1966 showed the greatest increase with 431,527 individuals visiting Nolin. This is an increase of forty percent from 1965 (see Appendix A).

From 1967 to 1972 attendance was lower than that of 1966 (see Graph I). This is probably due to the construction of two other reservoirs located on the Barren and Rough rivers. It could be assumed that the creation of these two larger recreation centers absorbed visitors formerly attracted to Nolin. In 1973, attendance at Nolin Reservoir rose again (see Graph I). This is partially attributed to the gas shortage of that year.

*Attendance and participation in activities in each of*
<table>
<thead>
<tr>
<th>Facility</th>
<th>Sites*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Public Use Areas in Acres</td>
<td>1</td>
</tr>
<tr>
<td>Parking - Cars</td>
<td>6</td>
</tr>
<tr>
<td>Parking - Cars and Trailers</td>
<td>6</td>
</tr>
<tr>
<td>Boat Ramp Lane</td>
<td>6</td>
</tr>
<tr>
<td>Picnic Units</td>
<td>6</td>
</tr>
<tr>
<td>Beaches</td>
<td>1</td>
</tr>
<tr>
<td>Sewage Treatment</td>
<td>1</td>
</tr>
<tr>
<td>Bath House</td>
<td>1</td>
</tr>
<tr>
<td>Camping</td>
<td>3</td>
</tr>
<tr>
<td>Comfort Station</td>
<td>3</td>
</tr>
<tr>
<td>Cabin</td>
<td>3</td>
</tr>
<tr>
<td>Motel</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: Compiled by Author.

*1. Dam Area
2. Dickey's Mill
3. Iberia
4. Dog Creek
5. Wax
6. Moutardier
7. Brier Creek
GRAPH 1
TOTAL ATTENDANCE AT NOLIN RESERVOIR 1965-1974

ATTENDANCE IN THOUSANDS

YEAR

600
500
400
300

65 66 67 68 69 70 71 72 73 74
the public use areas are quite different. Such factors as the physical setting, accessibility, facilities, and distance from urban areas have a varied effect on each public use unit.

Physical Description and Factors Affecting Attendance at Each Public Recreation Center

Area 1. Dam Area

This 73 acre site is located on Kentucky Highway 728, about 7.8 stream miles from the confluence of Green and Nolin Rivers (see Map 4). The area is divided into three main sections: the right abutment, which houses the operational and maintenance office; the section below the dam, which has very rugged topography (see Plate la); and the left abutment, which is partially developed for public use (see Plate lb).

The facilities provided for this site are not adequate (see Table 4). Highway 728 and the site’s proximity to Brownsville, the seat of Edmonson County, make this area readily accessible to many visitors. Moreover, the location of the operational office adds to the high attendance. The Corps has proposed additional developments to meet public demand. A road leading to the downstream section from the dam is under construction (see Plate la). A comfort station, a bath house, a parking lot, and a sewage treatment plant will also be constructed. The site, when fully developed, may be the best day-use area along the reservoir.
a. The Dam area as viewed downstream from main road Highway 728. The topography is rough with deep slopes. It is next to impossible to develop camping in this area.

b. The left abutment in the dam area showing the maintenance and administrative office. The topography is also very rough and camping could not be done here.
a. The Dam area as viewed downstream from main road Highway 728. The topography is rough with deep slopes. It is next to impossible to develop camping in this area.

b. The left abutment in the dam area showing the maintenance and administrative office. The topography is also very rough and camping could not be done here.
Area II. Dickey's Mill

This 124 acre site is yet to be developed. The area is about six stream miles from the dam recreation center, traveling northeast of the reservoir (see Map 4). Unlike area one, the Dickey's Mill site has a varied topography, but poor accessibility. The site is distant from any urban center and is served only by Kentucky Highway 889. This has contributed to its late development. A proposal to construct a sixty foot boat launching ramp with parking for one hundred cars and trailers, fifty six picnic units, hiking trails and a comfort station by 1979 has been filed.

Area III. Iberia

This 110 acre public use area is located in the north central part of the reservoir, about fifteen stream miles from the dam area (see Map 4). The public use area is traversed by Kentucky Highway 88, which is the major road to Clarkson, Kentucky. The site's accessibility produces considerable attendance (see Appendix A). The center lacks sufficient facilities (see Table 4), and the existing ones are being overused. The proposal by the Corps of Engineers for development for this site consists of an addition of fifteen picnic units and tree planting to control the excessive erosion near the boat ramp. The proposal has also suggested turning this recreation area to a day-use center by 1979.

Area IV. Dog Creek

The public use sector covers 98 acres of land. The location is about twelve stream miles northeast of the dam site
(see Map 4). Kentucky Highway 1015 provides accessibility to this area. The relatively flat topography and Indian relics account for the site's high attendance (see Appendix A). Because of its limited facilities, many recreation activities that are not authorized by the Corps are being performed. Participation in swimming and camping is very high despite the fact that there are no formal facilities.

Considerable dirt and rocks were hauled away from this area in 1963, during the construction of the dam. These materials were not replaced, and as a result much of the scenic value of the area has been destroyed (see Plate 2). The Corps has proposed some improvements for this recreation center. Trees will be planted, eight spaces of two-lane boat ramps, and two hundred camp units will be constructed. The existing parking lot will also be doubled in area by 1979.

Area V. Wax

The second largest public use area on Nolin Reservoir covers 193 acres. It is about twenty stream miles northeast of the dam area. The facility is located at the junction of Kentucky Highway 88 and 479 (see Map 4). This location gives the area better accessibility than any other public recreation center on the reservoir. The Wax center has thirty eight parking spaces, six picnic units, forty six camp sites, and a two-lane boat ramp. The intensive use of the facilities has caused deterioration and soil compaction to the extent that the top soil has been eroded away (see Plate 3a & b). To meet the demand of the public, the Corps has proposed
Part of the area where dirt and rocks were hauled away during the construction of the dam can be seen in the picture. Indian relics are also found in this area. It is imperative that trees and grass be planted to prevent further erosion.

considerable development. Approximately 340 camp units will be provided and furnished with water and electricity.

Area VI. Moutardier

This is the largest public use area on the reservoir. It is located about five stream miles north of the dam area. It covers about 280 acres of which 29.2 acres are under concession. The topography of this area is rough with an undulating surface. The road constructed from Kentucky Highway 259 to the public use area provides access to the site and is full of sharp bends and curves.
Part of the area where dirt and rocks were hauled away during the construction of the dam can be seen in the picture. Indian relics are also found in this area. It is imperative that trees and grass be planted to prevent further erosion.

considerable development. Approximately 340 camp units will be provided and furnished with water and electricity.

Area VI. Moutardier

This is the largest public use area on the reservoir. It is located about five stream miles north of the dam area. It covers about 280 acres of which 29.2 acres are under concession. The topography of this area is rough with an undulating surface. The road constructed from Kentucky Highway 259 to the public use area provides access to the site and is full of sharp bends and curves.
a. Erosion is the major problem at the Wax site. The gulley in the middle of the picture is about 5 to 6 feet deep.

b. Another eroded area at Wax. The gulley is not so pronounced here, but there is a need to plant grass to check the erosion.
a. Erosion is the major problem at the Wax site. The gulley in the middle of the picture is about 5 to 6 feet deep.

b. Another eroded area at Wax. The gulley is not so pronounced here, but there is a need to plant grass to check the erosion.
Moutardier has more facilities than any other public use unit (see Table 4), and is the only area on the reservoir that is officially approved for camping. There are 131 camp sites in this sector, with the camp area divided into three main sections. The first consists of ninety sites and is the best camping area on the reservoir. The camp sites are well spaced and provided with necessary facilities. The second camping section has sixteen camp sites and the third has twenty five. These two sections are located close to the shore line of the reservoir, and as a result have been used intensively. This has brought about deterioration and soil compaction (see Plate 4). In order to protect these sites, the Army Corps of Engineers has proposed to cancel the concession permit and turn the 29.2 affected acres into a parking area and provide more picnic units. Proposals for development as for other centers have been made for Moutardier. The land bordering the shore line that is now over-used will be turned to day-use. The existing 90 camp sites will be turned to group camping and 200 more camp sites will be developed.

Area VII. Brier Creek

The Brier Creek public use center is located at the confluence of Nolin and Brier Creek, about three miles from the dam area (see Map 4). The center covers 144 acres of land. Brier Creek is the most important public use area on the southern shore of the reservoir, though attendance here is not as high as the northern shore centers (see
At the Moutardier Site, the picnic area has been overused and soil is exposed. The nearness of the facility to the shoreline has led to the intensive use of the camp area.

Appendix A). The topography of this area is relatively flat. The only access to the center is Kentucky Highway 1827. As at the other public use areas, the facilities provided are very limited. There are fifteen picnic units, fifty units of undeveloped camp ground, and an eighteen car parking lot. The Corps has, however, proposed to improve the facilities by providing more camping grounds, a marina, restaurant, and a general store.
At the Moutardier Site, the picnic area has been overused and soil is exposed. The nearness of the facility to the shoreline has led to the intensive use of the camp area.

Appendix A). The topography of this area is relatively flat. The only access to the center is Kentucky Highway 1827. As at the other public use areas, the facilities provided are very limited. There are fifteen picnic units, fifty units of undeveloped camp ground, and an eighteen car parking lot. The Corps has, however, proposed to improve the facilities by providing more camping grounds, a marina, restaurant, and a general store.
Projection for Future Recreation Use

As evidenced by the attendance records for each of the public use areas, attendance and participation depend on accessibility, facilities and distance of each center from urban areas. The Wax public use unit is accessible to many visitors, and attendance is relatively higher than at the other sites. Moutardier has the highest attendance because of the facilities provided. Attendance at Brier Creek is relatively lower than the other sites because of its poor accessibility, facilities, and its remote location.

To improve recreation activities and facilities on Nolin, the Army has conducted a study of the recreational use of the reservoir. The attendance records of previous years and the available facilities at each public use area were used to project the use of the reservoir in the future (see Table 5).

The result of this survey indicates that the only surplus facility on the reservoir is picnic units (see Table 5). At the present, there are no swimming beaches on Nolin, yet many people are participating in the activity (see Appendix A). There is a demand for at least 75,800 square feet of swimming beach on the reservoir. The parking facilities are adequate at present, but the potential for parking has not been reached. The reservoir can be developed to hold 1975 parking spaces but only 519 are provided. Camping sites are insufficient. There is at present a demand for 381 sites, while only 131 are provided.
<table>
<thead>
<tr>
<th>Item</th>
<th>Present Demand</th>
<th>Present Supply</th>
<th>Planned Facilities</th>
<th>Ultimate Facilities</th>
<th>Excess Planned Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boat and Fishing Parking</td>
<td>519</td>
<td>529</td>
<td>550</td>
<td>1,975</td>
<td>-1,425</td>
</tr>
<tr>
<td>Boat Launching Lanes</td>
<td>717</td>
<td>12</td>
<td>20</td>
<td>45</td>
<td>-25</td>
</tr>
<tr>
<td>Camp Units</td>
<td>381</td>
<td>131</td>
<td>212</td>
<td>1,450</td>
<td>-1,238</td>
</tr>
<tr>
<td>Picnic Units</td>
<td>35</td>
<td>34</td>
<td>530</td>
<td>155</td>
<td>375</td>
</tr>
<tr>
<td>Swimming (Parking)</td>
<td>190</td>
<td>0</td>
<td>610</td>
<td>540</td>
<td>70</td>
</tr>
<tr>
<td>Swimming (Beach Area in Square Feet)</td>
<td>75,800</td>
<td>0</td>
<td>18,300</td>
<td>21,600</td>
<td>-3,300</td>
</tr>
</tbody>
</table>

Summary

The Nolin Reservoir Basin was a totally rural and agricultural area from its settlement about 1775, until the early 1960's. Since 1963, when construction of the dam was completed by the Corps of Engineers, land use has been changing from agricultural to recreational use. At present, the recreational use of the land is more important than agricultural. The management of recreation activities on the reservoir is entirely conducted by the Corps of Engineers. The Corps uses two methods--direct and indirect--to manage the reservoir. The direct procedure deals with the public use areas, and the indirect method is done through permit, license, and lease.

The public use centers lack adequate facilities, and as a result are overused. The overuse of these facilities has resulted in a deterioration of services. Proposals have been made to develop these areas, but budget limitations are limiting these efforts.
CHAPTER IV

IMPACT OF RECREATION ON NOLIN LAND OWNERSHIP AND VALUE

The impact of recreational use is pronounced both on land ownership and value at Nolin Reservoir. This impact was slight at the beginning, but it has steadily increased. The 465,280 acres of land around the reservoir remained rural and private until the early 1960's, when the Army Corps of Engineers began purchasing it for the construction of the reservoir. The Corps which has proposed to purchase 11,000 acres of land ended up buying 13,414 acres (see Map 5). This purchase brought about the first major change in land ownership and marked the beginning of a great change.

Acquisition and the Impact of Army's Land on Nolin

The acquisition of the land by the Army took several years. In 1960, about one percent of the total land presently owned by the Army was purchased. Seventeen additional percent was bought in 1962. In 1963, when the construction of the dam was nearing completion, forty-seven percent of the land was purchased; this included most of the public recreation areas along the reservoir. Another twenty percent for protection of wildlife was obtained in 1964. Out of the total land purchased, 2,065 acres are presently surface waters of the reservoir; and 1,023 acres of land are designated for
NOLIN BASIN LAND OWNERSHIP
1975

LEGEND
- Reservoir
- Army Corps of Engineers' Land
- Subdivisions
- Private Farm Land
public use areas. The remaining land is in wild life reserves leased to farmers (see Map 5).

On the 1,023 acres designated for public use, the Army has provided some recreation facilities. This spurred public interest in buying land along the reservoir. The rush for land along the shoreline has had a great impact on the basin. Land values soon began to increase and ownership changed from the farmer to the private developer (see Map 5).

Changes in Land Value as a Result of Recreational Use

General land values in the pre-reservoir era are not known. Land sales were limited and accurate records were not maintained. An inventory made by the Army Corps of Engineers in 1956 had, however, indicated that the value of land per acre was about $50. The addition of an improvement cost of the land brought the gross value to about $80 per acre. The low value of land in this rural area changed, however, in 1963 when people started to buy properties for recreational use around Nolin.

From the questionnaires distributed (see Appendix C), it was discovered that a parcel of land that was sold for $80 in 1956 was sold for $200 in 1963. By 1966 the average land value around Nolin had increased from $200 to $500 per acre (see Graph 2). This is an increase of 150 percent in four years. In 1969 land value per acre stood at $1,500, another 300 percent increase. From 1969, land values varied.

The location of the land has a great effect on its value. Land in the vicinity of major recreation areas has a
Graph 2

Changes in Land Value: Nolin Basin 1963 - 1974

Amount in Dollars

Year


4000

3000

2000

1000

0
higher value regardless of who owns the land. Buyers in these areas have greater accessibility to public recreation facilities. Accordingly, land along major routes in the basin has a higher value than land situated in remote areas away from roads. In addition, value of land also decreases as you go farther from the main entrance of the subdivision and shoreline.

It is apparent that land value along the shoreline does not follow the same general pattern as the remainder of the basin (Graph 2). In 1963, land values were the same regardless of the location of the parcel of land. However, after the reservoir was opened for public use, while general land values of the basin increased in arithmetic fashion, the value of the shoreline land increased geometrically.

In 1966, land values along the shoreline had reached $800. This is an increase of 300 percent and a difference of 60 percent from the general increase. By 1969, shoreline land had reached over $2,000 in value. In 1974, the same land that was sold for over $2,000 in 1969 was valued at over $4,000.

The Subdivision

Since the opportunity existed to purchase recreational property along the shoreline of Nolin, people rushed to purchase land. This demand has led to speculation and development. By 1964, a union of developers had formed on Nolin. In 1964, only seventeen developers were found in the basin (see Appendix B), but by 1971, the number had reached twenty three. At the end of 1974, the number of developers in the union
remained the same, but the number of subdivisions had reached seventy-five.

The Ambassador Shore Development, headed by John Smith, is the largest in the basin. The development consists of 1,500 lots covering 355 acres of land at the boundary of Edmonson and Grayson counties; about eight stream miles north of the dam area. All the lots were sold within five years of the opening of the development with most buyers being from Louisville and Evansville, Indiana. Many houses are found in this subdivision and what was once a woodland has become an estate (see Plate 5a & b). In addition to this complex, John Smith and his associates recently purchased 2,000 additional lots in Edmonson County, about one and one half stream miles east of the dam site. This area has been cleared and opened for development.

Not all subdivisions are owned by professional developers, as several farmers have turned their land into small housing tracts. The shift in land use has had tremendous impact on the basin, and many owners have different opinions about the change. The change may be desirable to the recreationists because the rural areas are becoming a center of activities. To the agriculturalists, the most fertile land has been converted in housing development and this can have effects on food production in the area. Some land owners have also gone out of business and have taken to another profession or business. In such cases, the name of the area they turned into housing tracts is named after them. A good example of this is Goff
a. A typical look of Nolin recreation homes along the reservoir. Most of the homes are not occupied in the winter months.

b. Most of the housing developments on Nolin consist of mobile homes. This is an example of a subdivision near Dog Creek recreation area.
a. A typical look of Nolin recreation homes along the reservoir. Most of the homes are not occupied in the winter months.

b. Most of the housing developments on Nolin consist of mobile homes. This is an example of a subdivision near Dog Creek recreation area.
Point, whose owner went back to practice law at Leitchfield after the land was sold (see Appendix B).

Private Land Owners

The indigenous land owners at Nolin Reservoir basin are the farmers who held title for the land either through purchase or inheritance. Since the construction of the reservoir, there have been changes of ownership. Most of the farms along the reservoir have been turned into private recreation areas. (see Map 3).

This change in ownership has created problems for various county officials. Russell Simpson, the property assessor at Grayson County commented that the assessment of property along the reservoir is becoming increasingly complicated. Land is changing ownership so rapidly that it is difficult to keep accurate records of the changes.

Absentee Owners

About 98 percent of land around the shoreline of the reservoir belongs to absentee owners. The land is in lots and largely occupied by mobile homes. Most of these mobile homes are populated during the summer months, but are evacuated during the winter. Several possible reasons can be advanced for this situation. The weather does not allow for participation in water based activities, and hunting wild life is not allowed year round by regulation. Moreover, the Army Corps of Engineers significantly lowers the water level of the reservoir during these months, making water based activities impractical.
Summary

The 465,280 acres of land of Nolin Reservoir included in the study area remained private property until the early 1960's when the Army Corps of Engineers began to purchase land for the construction of the reservoir. The Army proposed to purchase 11,000 acres of land, but ended up purchasing 13,414. The Corps provided some recreation facilities on the reservoir, and this brought about many changes in land value and ownership.

While the general land value in the basin increased in arithmetic fashion, the value of land along the shoreline increased geometrically. In 1963 the value of the land regardless of its location was about $200, but by 1966 the general land value stood at $500, while the shoreline land was $800 per acre. In 1974, while the general value was about $2,000, the shoreline land was valued at about $4,000 per acre. The difference exists for two reasons: first, the recreationists are willing to pay more for the shoreline land than the land farther away, and second, the developers charge more for their land than the private owners.

Significant changes in types of land ownership have been recorded on the reservoir. The developer, the private recreation land owner, and the absentee owner are now common to the basin.
NOTES

1Russell Simpson, Tax assesor for Grayson County, Leitchfield, Kentucky, January 3, 1975.
SUMMARY AND CONCLUSIONS

Summary

The purposes of this study were: (1) to consider the factors that influenced the construction of Nolin and its recreation sites; (2) to consider the growth and variations in attendance and participation in activities as a function of quantity and quality of available facilities and accessibility; and (3) to trace the changes that the creation of the reservoir has brought on the surrounding land use, value and ownership.

Nolin Reservoir was proposed for construction in 1933, but was not authorized by Congress until 1937. After extensive planning and delay, actual work on the dam began in 1960 and was completed in 1963.

After construction, seven areas on the reservoir were designated for public use, but only six were partially developed. Since the State Government had no interest in developing any portion of the reservoir, the Army Corps essentially controlled activity.

The Corps directs the activities on the reservoir using two methods; direct and indirect. The direct procedure involves all public use areas; while the indirect methods are carried out by permit, license, and lease. The
46 docks on the reservoir are under permit, and each permit is renewable every year. Thirteen private ramps are issued licenses to operate for a fee of $50 each. Unlike permits, licenses are renewable every five years. Two acres of concessions are found along the reservoir, about 4.5 acres at Wax and 29.2 acres at Moutardier. In addition, some farmers operate on a lease basis on the Corp's land. Since the facilities in the public use areas are not adequate, private recreationists began to purchase property along the reservoir to furnish their own private facilities.

Attendance and participation on Nolin do not entirely depend upon facilities. The Wax site which has the best accessibility on the reservoir has high attendance. The Dam area also has high attendance because of its location and its nearness to an urban area. Brier Creek, on the other hand, has poor accessibility, limited facilities and is located some distance from any urban area. The attendance at this site is lower than any other area.

Since the reservoir was completed, land use has gradually changed from agriculture to recreation. The willingness of the public to pay a higher rate for recreation land has led to an increase in land value. Before the construction of the reservoir, a survey indicated that land values were about $80 per acre. In 1963, after the construction of the reservoir, the value of land rose to $200 per acre and by 1966, the value had reached $500. From 1969 to 1974 the values of the land varied. The location of the land has played a great part on
its value. Land adjacent to the water costs twice that of land farther away from the shoreline. Land value varies from $1,500 to over $4,000 per acre.

The rising value of land along the shoreline has induced many types of land ownerships. In 1964 a union of developers was formed. There were 17 members in the union. By 1974, the number in the union had reached 23. Some developers have more than one subdivision and many farmers turned their arable land into housing tracts. Some local residents became speculators and most of the land adjacent to the reservoir became owned by absentee owners.

Changes also occurred in the style of life of the people of the basin. Before the construction of the reservoir there were very limited facilities in the basin, but now most of the subdivisions have at least a general store. The Army Corps of Engineers in a 1971 study analyzed what factors were necessary to develop the area as a year round recreation area. They concluded that Nolin needs more facilities and a great deal of improvements. The goals studied in the report could not be met, however, unless State Government aided in development.

Conclusions and Recommendations

Due to the fact that people concentrate at the focal points of activities, the public use areas of the basin have been over used. This overuse is due to the limited facilities provided for the public. Since these areas are not
adequately furnished, the lease of Corps' land to the private entrepreneur would aid in the development of the reservoir.

Many users commented that the Army Corps is restricting their activity. To guard against such comments, public meetings should be scheduled by the Corps of Engineers to familiarize the people with their policy.

At present, there are no swimming beaches on the reservoir. It was concluded in 1971 that there was a need for over seventy thousand square feet of swimming beach. It is imperative that this be provided to serve and protect the public.

In addition, better roads should be constructed to many of the recreation areas. The Wax public use area is the only site with adequate accessibility. The road leading to Moutardier recreation area should be widened and straightened. Better camping ground should be provided. The flat land of Dog Creek and Brier Creek areas should be utilized to house more campers. The campgrounds at Moutardier should be protected and improved. Trees should be planted at the Dog Creek area to replace the materials utilized in the construction of the reservoir; and the area surrounding the boat ramp at Iberia should be planted with grass to control erosion.

To obtain adequate and accurate attendance records on the reservoir, the Army Corps should provide more traffic counters to cover the entrances of the reservoir. The sub-dividers of Nolin area should be registered and each county involved should insist that any subdivision be properly filed.
Areas of Further Studies

Nolin is in a transition stage from agricultural land use to recreational use, and there are many interesting subjects that merit further study. The relationship between the Corps and the residents of the basin, and the impact of the Barren and Rough river reservoirs, and Mammoth Cave National Parks on attendance and participation should be analyzed. The market areas of the reservoir need to be delimited and the recreational carrying capacity needs to be analyzed.
## APPENDIX A

### ATTENDANCE 1965 - 1974

<table>
<thead>
<tr>
<th></th>
<th>65</th>
<th>66</th>
<th>67</th>
<th>68</th>
<th>69</th>
<th>70</th>
<th>71</th>
<th>72</th>
<th>73</th>
<th>74</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>33,989</td>
<td>59,930</td>
<td>26,897</td>
<td>20,541</td>
<td>23,795</td>
<td>26,299</td>
<td>23,971</td>
<td>22,643</td>
<td>76,098</td>
<td>129,599</td>
</tr>
<tr>
<td>2</td>
<td>31,666</td>
<td>29,805</td>
<td>30,028</td>
<td>38,064</td>
<td>34,225</td>
<td>35,917</td>
<td>34,461</td>
<td>36,390</td>
<td>47,313</td>
<td>29,739</td>
</tr>
<tr>
<td>3</td>
<td>24,111</td>
<td>28,210</td>
<td>30,735</td>
<td>36,260</td>
<td>34,256</td>
<td>31,759</td>
<td>29,366</td>
<td>32,628</td>
<td>29,149</td>
<td>27,613</td>
</tr>
<tr>
<td>4</td>
<td>133,857</td>
<td>179,865</td>
<td>82,673</td>
<td>110,852</td>
<td>117,513</td>
<td>115,996</td>
<td>115,623</td>
<td>122,693</td>
<td>127,843</td>
<td>160,408</td>
</tr>
<tr>
<td>5</td>
<td>58,539</td>
<td>102,592</td>
<td>118,001</td>
<td>65,468</td>
<td>93,584</td>
<td>93,908</td>
<td>101,016</td>
<td>105,501</td>
<td>166,773</td>
<td>100,077</td>
</tr>
<tr>
<td>6</td>
<td>20,469</td>
<td>33,125</td>
<td>23,178</td>
<td>20,844</td>
<td>28,346</td>
<td>37,265</td>
<td>40,147</td>
<td>44,166</td>
<td>39,114</td>
<td>43,311</td>
</tr>
<tr>
<td>7</td>
<td>10,968</td>
<td>11,190</td>
<td>10,419</td>
<td>11,603</td>
<td>11,430</td>
<td>6,818</td>
<td>11,897</td>
<td>13,487</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>7,325</td>
<td>5,698</td>
<td>4,438</td>
<td>5,542</td>
<td>4,721</td>
<td>3,576</td>
<td>4,595</td>
<td>12,383</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td>31,700</td>
<td>29,663</td>
<td>29,892</td>
<td>27,341</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T*</td>
<td>302,631</td>
<td>433,527</td>
<td>329,805</td>
<td>308,917</td>
<td>346,576</td>
<td>358,289</td>
<td>392,435</td>
<td>404,078</td>
<td>532,674</td>
<td>543,958</td>
</tr>
</tbody>
</table>

1. Dam  
2. Iberia  
3. Dog Creek  
4. Wax  
5. Moutardier  
6. Brier Creek  
7. Edmonson  
8. Grayson  
9. Ponderosa

T* Total
### TOTAL ATTENDANCE AND PARTICIPATION IN MAJOR ACTIVITIES ON NOLIN RESERVOIR SINCE 1965

<table>
<thead>
<tr>
<th></th>
<th>65</th>
<th>66</th>
<th>67</th>
<th>68</th>
<th>69</th>
<th>70</th>
<th>71</th>
<th>72</th>
<th>73</th>
<th>74</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>47,988</td>
<td>71,310</td>
<td>39,687</td>
<td>43,541</td>
<td>57,673</td>
<td>57,857</td>
<td>63,607</td>
<td>69,056</td>
<td>92,736</td>
<td>80,874</td>
</tr>
<tr>
<td>2.</td>
<td>67,599</td>
<td>104,456</td>
<td>18,350</td>
<td>11,791</td>
<td>39,163</td>
<td>40,711</td>
<td>25,921</td>
<td>27,001</td>
<td>35,282</td>
<td>119,690</td>
</tr>
<tr>
<td>3.</td>
<td>105,181</td>
<td>157,988</td>
<td>36,886</td>
<td>30,222</td>
<td>67,043</td>
<td>69,983</td>
<td>61,937</td>
<td>64,037</td>
<td>79,291</td>
<td>83,411</td>
</tr>
<tr>
<td>4.</td>
<td>75,024</td>
<td>203,072</td>
<td>144,213</td>
<td>100,034</td>
<td>119,072</td>
<td>124,651</td>
<td>140,099</td>
<td>139,542</td>
<td>179,421</td>
<td>177,355</td>
</tr>
<tr>
<td>5.</td>
<td>206,553</td>
<td>328,524</td>
<td>131,039</td>
<td>108,845</td>
<td>156,630</td>
<td>162,467</td>
<td>135,144</td>
<td>138,322</td>
<td>195,327</td>
<td>212,589</td>
</tr>
<tr>
<td>6.</td>
<td>26,670</td>
<td>30,442</td>
<td>7,225</td>
<td>15,775</td>
<td>21,436</td>
<td>22,192</td>
<td>19,625</td>
<td>21,534</td>
<td>27,479</td>
<td>22,987</td>
</tr>
<tr>
<td>7.</td>
<td>86,302</td>
<td>103,348</td>
<td>5,206</td>
<td>37,803</td>
<td>48,192</td>
<td>50,426</td>
<td>23,223</td>
<td>25,992</td>
<td>30,621</td>
<td>23,727</td>
</tr>
</tbody>
</table>

1. Camping  
2. Picnicing  
3. Boating  
4. Fishing  
5. Sight Seeing  
6. Skiing  
7. Swimming
### ANNUAL CAMPING PARTICIPATION

<table>
<thead>
<tr>
<th></th>
<th>65</th>
<th>66</th>
<th>67</th>
<th>68</th>
<th>69</th>
<th>70</th>
<th>71</th>
<th>72</th>
<th>73</th>
<th>74</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2,603</td>
<td>1,794</td>
<td>622</td>
<td>733</td>
<td>844</td>
<td>176</td>
<td>101</td>
<td>285</td>
<td>297</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>3,935</td>
<td>3,355</td>
<td>3,942</td>
<td>4,196</td>
<td>4,770</td>
<td>5,028</td>
<td>4,847</td>
<td>5,291</td>
<td>6,668</td>
<td>4,645</td>
</tr>
<tr>
<td>3.</td>
<td>1,849</td>
<td>2,305</td>
<td>1,367</td>
<td>2,826</td>
<td>2,053</td>
<td>1,984</td>
<td>1,517</td>
<td>1,669</td>
<td>1,493</td>
<td>1,388</td>
</tr>
<tr>
<td>4.</td>
<td>24,203</td>
<td>39,270</td>
<td>8,444</td>
<td>26,592</td>
<td>14,685</td>
<td>15,288</td>
<td>16,010</td>
<td>18,173</td>
<td>17,135</td>
<td>24,229</td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4,732</td>
<td>6,714</td>
</tr>
<tr>
<td>6.</td>
<td>6,311</td>
<td>11,248</td>
<td>18,779</td>
<td>27,324</td>
<td>27,360</td>
<td>24,438</td>
<td>29,356</td>
<td>30,956</td>
<td>51,944</td>
<td>34,187</td>
</tr>
<tr>
<td>7.</td>
<td>9,097</td>
<td>13,230</td>
<td>6,533</td>
<td>2,544</td>
<td>7,833</td>
<td>10,105</td>
<td>10,640</td>
<td>12,045</td>
<td>9,602</td>
<td>9,319</td>
</tr>
<tr>
<td>8.</td>
<td></td>
<td></td>
<td></td>
<td>39</td>
<td>90</td>
<td>126</td>
<td>111</td>
<td>18</td>
<td>51</td>
<td>95</td>
</tr>
<tr>
<td>9.</td>
<td></td>
<td></td>
<td></td>
<td>20</td>
<td>49</td>
<td>44</td>
<td>48</td>
<td>38</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>902</td>
<td>765</td>
</tr>
<tr>
<td>T*</td>
<td>47,998</td>
<td>71,202</td>
<td>39,687</td>
<td>63,541</td>
<td>57,573</td>
<td>57,857</td>
<td>63,607</td>
<td>69,056</td>
<td>92,736</td>
<td>80,874</td>
</tr>
</tbody>
</table>

1. Dam Site  
2. Iberia  
3. Dog Creek  
4. Wax  
5. Dam Ramp  
6. Moutardier  
7. Brier Creek  
8. Edmonson  
9. Grayson  
10. Ponderosa  

T* Total
ANNUAL FISHING PARTICIPATION

<table>
<thead>
<tr>
<th>Year</th>
<th>65</th>
<th>66</th>
<th>67</th>
<th>68</th>
<th>69</th>
<th>70</th>
<th>71</th>
<th>72</th>
<th>73</th>
<th>74</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11,976</td>
<td>26,521</td>
<td>5,241</td>
<td>4,222</td>
<td>3,655</td>
<td>3,924</td>
<td>4,435</td>
<td>4,037</td>
<td>8,600</td>
<td>13,204</td>
</tr>
<tr>
<td>2</td>
<td>15,736</td>
<td>17,635</td>
<td>13,183</td>
<td>21,626</td>
<td>13,647</td>
<td>13,960</td>
<td>12,333</td>
<td>12,298</td>
<td>16,420</td>
<td>11,274</td>
</tr>
<tr>
<td>3</td>
<td>14,095</td>
<td>16,039</td>
<td>16,331</td>
<td>41,809</td>
<td>14,202</td>
<td>13,626</td>
<td>10,940</td>
<td>11,675</td>
<td>10,455</td>
<td>9,802</td>
</tr>
<tr>
<td>4</td>
<td>51,608</td>
<td>63,021</td>
<td>30,581</td>
<td>5,582</td>
<td>34,817</td>
<td>32,248</td>
<td>32,903</td>
<td>33,167</td>
<td>35,214</td>
<td>44,902</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10,146</td>
<td>8,393</td>
</tr>
<tr>
<td>6</td>
<td>17,769</td>
<td>37,314</td>
<td>52,973</td>
<td>10,247</td>
<td>31,457</td>
<td>33,818</td>
<td>35,498</td>
<td>36,748</td>
<td>56,729</td>
<td>36,554</td>
</tr>
<tr>
<td>7</td>
<td>14,932</td>
<td>25,442</td>
<td>12,859</td>
<td>8,787</td>
<td>13,516</td>
<td>17,706</td>
<td>15,185</td>
<td>16,606</td>
<td>13,599</td>
<td>12,609</td>
</tr>
<tr>
<td>8</td>
<td>7,686</td>
<td>4,931</td>
<td>5,390</td>
<td>6,439</td>
<td>5,895</td>
<td>3,185</td>
<td>5,926</td>
<td>7,444</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>5,359</td>
<td>2,835</td>
<td>2,393</td>
<td>2,920</td>
<td>2,568</td>
<td>2,035</td>
<td>2,193</td>
<td>5,098</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20,342</td>
<td>19,797</td>
</tr>
<tr>
<td><strong>T</strong></td>
<td><strong>126,116</strong></td>
<td><strong>185,972</strong></td>
<td><strong>144,213</strong></td>
<td><strong>100,039</strong></td>
<td><strong>119,077</strong></td>
<td><strong>124,641</strong></td>
<td><strong>140,099</strong></td>
<td><strong>139,548</strong></td>
<td><strong>179,421</strong></td>
<td><strong>167,355</strong></td>
</tr>
</tbody>
</table>

1. Dam       6. Moutardier
2. Iberia    7. Brier Creek
3. Dog Creek 8. Edmonson
5. Dam Ramp 10. Ponderosa

T* Total
### ANNUAL PICNIC PARTICIPATION

<table>
<thead>
<tr>
<th></th>
<th>65</th>
<th>66</th>
<th>67</th>
<th>68</th>
<th>69</th>
<th>70</th>
<th>71</th>
<th>72</th>
<th>73</th>
<th>74</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>6,041</td>
<td>4,199</td>
<td>15</td>
<td>802</td>
<td>1,453</td>
<td>1,860</td>
<td>281</td>
<td>340</td>
<td>2,001</td>
<td>3,121</td>
</tr>
<tr>
<td>2.</td>
<td>9,124</td>
<td>8,869</td>
<td>2,041</td>
<td>273</td>
<td>4,279</td>
<td>4,576</td>
<td>1,240</td>
<td>1,350</td>
<td>1,747</td>
<td>1,163</td>
</tr>
<tr>
<td>3.</td>
<td>6,406</td>
<td>8,828</td>
<td>1,861</td>
<td>1,097</td>
<td>4,313</td>
<td>4,308</td>
<td>1,915</td>
<td>2,135</td>
<td>1,921</td>
<td>2,027</td>
</tr>
<tr>
<td>4.</td>
<td>23,509</td>
<td>41,332</td>
<td>3,625</td>
<td>5,700</td>
<td>8,799</td>
<td>8,825</td>
<td>7,855</td>
<td>7,698</td>
<td>7,919</td>
<td>11,243</td>
</tr>
<tr>
<td>5.</td>
<td>13,360</td>
<td>24,121</td>
<td>9,827</td>
<td>2,317</td>
<td>14,884</td>
<td>14,071</td>
<td>10,726</td>
<td>11,106</td>
<td>17,924</td>
<td>110,006</td>
</tr>
<tr>
<td>6.</td>
<td>9,159</td>
<td>15,307</td>
<td>375</td>
<td>1,602</td>
<td>5,171</td>
<td>6,714</td>
<td>3,053</td>
<td>3,359</td>
<td>2,639</td>
<td>2,421</td>
</tr>
<tr>
<td>7.</td>
<td>354</td>
<td>182</td>
<td>244</td>
<td>167</td>
<td>121</td>
<td>296</td>
<td>289</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>232</td>
<td>82</td>
<td>173</td>
<td>161</td>
<td>132</td>
<td>164</td>
<td>179</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td></td>
<td>523</td>
<td>763</td>
<td>671</td>
<td>484</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T*</td>
<td>67,599</td>
<td>102,656</td>
<td>18,330</td>
<td>11,791</td>
<td>39,163</td>
<td>40,771</td>
<td>25,921</td>
<td>27,004</td>
<td>35,282</td>
<td>130,933</td>
</tr>
</tbody>
</table>

1. Dam 6. Brier Creek
2. Iberia 7. Edmonson
3. Dog Creek 8. Grayson
5. Moutardier

T* Total
# Annual Boating Participation

<table>
<thead>
<tr>
<th>Year</th>
<th>65</th>
<th>66</th>
<th>67</th>
<th>68</th>
<th>69</th>
<th>70</th>
<th>71</th>
<th>72</th>
<th>73</th>
<th>74</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2,697</td>
<td>4,211</td>
<td></td>
<td>629</td>
<td>747</td>
<td>172</td>
<td>156</td>
<td>4,516</td>
<td>15,239</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>14,145</td>
<td>14,015</td>
<td>3,614</td>
<td>5,367</td>
<td>8,617</td>
<td>8,962</td>
<td>5,170</td>
<td>5,408</td>
<td>7,201</td>
<td>4,661</td>
</tr>
<tr>
<td>3.</td>
<td>10,664</td>
<td>13,451</td>
<td>4,612</td>
<td>2,805</td>
<td>6,064</td>
<td>7,814</td>
<td>5,442</td>
<td>5,983</td>
<td>5,402</td>
<td>5,401</td>
</tr>
<tr>
<td>4.</td>
<td>51,361</td>
<td>75,724</td>
<td>9,007</td>
<td>13,470</td>
<td>22,247</td>
<td>22,742</td>
<td>19,837</td>
<td>20,725</td>
<td>19,828</td>
<td>28,965</td>
</tr>
<tr>
<td>5.</td>
<td>18,133</td>
<td>37,197</td>
<td>13,775</td>
<td>6,721</td>
<td>20,958</td>
<td>21,213</td>
<td>20,720</td>
<td>21,224</td>
<td>33,417</td>
<td>19,963</td>
</tr>
<tr>
<td>6.</td>
<td>8,181</td>
<td>14,804</td>
<td>4,238</td>
<td>1,767</td>
<td>6,528</td>
<td>8,505</td>
<td>6,800</td>
<td>7,570</td>
<td>6,005</td>
<td>6,397</td>
</tr>
<tr>
<td>7.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,036</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>604</td>
<td></td>
<td>92</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,796</td>
</tr>
<tr>
<td><strong>T</strong></td>
<td>105,181</td>
<td>159,402</td>
<td>36,886</td>
<td>30,222</td>
<td>65,043</td>
<td>69,983</td>
<td>61,937</td>
<td>64,037</td>
<td>79,291</td>
<td>83,411</td>
</tr>
</tbody>
</table>

1. Dam  
2. Iberia  
3. Dog Creek  
4. Wax  
5. Moutardier  
6. Brier Creek  
7. Edmonson  
8. Grayson  
9. Ponderosa  

**T** Total
<table>
<thead>
<tr>
<th></th>
<th>65</th>
<th>66</th>
<th>67</th>
<th>68</th>
<th>69</th>
<th>70</th>
<th>71</th>
<th>72</th>
<th>73</th>
<th>74</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>5,061</td>
<td>3,606</td>
<td></td>
<td>968</td>
<td>1,240</td>
<td></td>
<td></td>
<td></td>
<td>2,168</td>
<td>3,661</td>
</tr>
<tr>
<td>2.</td>
<td>9,932</td>
<td>7,272</td>
<td>346</td>
<td>6,184</td>
<td>4,443</td>
<td>4,784</td>
<td>2,153</td>
<td>2,471</td>
<td>3,096</td>
<td>1,778</td>
</tr>
<tr>
<td>3.</td>
<td>9,068</td>
<td>8,562</td>
<td>2,000</td>
<td>10,370</td>
<td>7,238</td>
<td>7,412</td>
<td>4,716</td>
<td>5,489</td>
<td>5,128</td>
<td>4,425</td>
</tr>
<tr>
<td>4.</td>
<td>29,957</td>
<td>35,578</td>
<td>1,458</td>
<td>10,745</td>
<td>13,812</td>
<td>15,356</td>
<td>6,415</td>
<td>7,212</td>
<td>6,567</td>
<td>7,889</td>
</tr>
<tr>
<td>5.</td>
<td>19,729</td>
<td>30,723</td>
<td>1,302</td>
<td>4,170</td>
<td>13,685</td>
<td>11,436</td>
<td>4,620</td>
<td>4,894</td>
<td>8,484</td>
<td>3,427</td>
</tr>
<tr>
<td>6.</td>
<td>12,555</td>
<td>17,607</td>
<td>100</td>
<td>5,784</td>
<td>7,516</td>
<td>9,486</td>
<td>4,768</td>
<td>5,517</td>
<td>4,422</td>
<td>1,937</td>
</tr>
<tr>
<td>7.</td>
<td></td>
<td></td>
<td>792</td>
<td>365</td>
<td>487</td>
<td>333</td>
<td>244</td>
<td>593</td>
<td>476</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td></td>
<td></td>
<td>358</td>
<td>165</td>
<td>225</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>218</td>
<td>165</td>
</tr>
<tr>
<td>T*</td>
<td>86,302</td>
<td>103,344</td>
<td>5,206</td>
<td>38,403</td>
<td>48,192</td>
<td>50,426</td>
<td>23,223</td>
<td>25,992</td>
<td>30,621</td>
<td>23,727</td>
</tr>
</tbody>
</table>

1. Dam
2. Iberia
3. Dog Creek
4. Wax
5. Moutardier

6. Brier Creek
7. Edmonson
8. Grayson
9. Ponderosa

T* Total
## ANNUAL SIGHT SEEING PARTICIPATION

<table>
<thead>
<tr>
<th></th>
<th>65</th>
<th>66</th>
<th>67</th>
<th>68</th>
<th>69</th>
<th>70</th>
<th>71</th>
<th>72</th>
<th>73</th>
<th>74</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>31,854</td>
<td>36,695</td>
<td>23,655</td>
<td>15,154</td>
<td>19,996</td>
<td>22,249</td>
<td>19,001</td>
<td>18,042</td>
<td>37,683</td>
<td>57,705</td>
</tr>
<tr>
<td>2.</td>
<td>18,225</td>
<td>17,896</td>
<td>7,540</td>
<td>15,719</td>
<td>14,900</td>
<td>15,867</td>
<td>12,681</td>
<td>13,604</td>
<td>17,560</td>
<td>9,484</td>
</tr>
<tr>
<td>3.</td>
<td>13,771</td>
<td>17,038</td>
<td>7,230</td>
<td>10,452</td>
<td>13,100</td>
<td>10,997</td>
<td>7,346</td>
<td>8,233</td>
<td>6,941</td>
<td>5,744</td>
</tr>
<tr>
<td>4.</td>
<td>92,598</td>
<td>156,777</td>
<td>38,136</td>
<td>34,026</td>
<td>63,890</td>
<td>51,428</td>
<td>46,743</td>
<td>49,761</td>
<td>55,584</td>
<td>69,068</td>
</tr>
<tr>
<td>5.</td>
<td>35,734</td>
<td>73,069</td>
<td>43,828</td>
<td>20,314</td>
<td>37,977</td>
<td>40,753</td>
<td>28,218</td>
<td>29,714</td>
<td>44,866</td>
<td>28,504</td>
</tr>
<tr>
<td>6.</td>
<td>14,341</td>
<td>25,075</td>
<td>5,824</td>
<td>5,237</td>
<td>11,072</td>
<td>14,817</td>
<td>9,750</td>
<td>10,233</td>
<td>11,704</td>
<td>16,738</td>
</tr>
<tr>
<td>7.</td>
<td>2,957</td>
<td>5,474</td>
<td>4,011</td>
<td>4,052</td>
<td>4,344</td>
<td>2,802</td>
<td>4,974</td>
<td>16,738</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>1,899</td>
<td>2,449</td>
<td>1,681</td>
<td>2,104</td>
<td>1,806</td>
<td>1,280</td>
<td>2,108</td>
<td>3,932</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5,255</td>
<td>4,653</td>
</tr>
</tbody>
</table>

**T* 206,523** 326,550 131,069 108,825 166,627 162,267 135,144 138,322 186,134 212,589

1. Dam
2. Iberia
3. Dog Creek
4. Wax
5. Moutardier
6. Brier Creek
7. Edmonson
8. Grayson
9. Ponderosa

T* Total
APPENDIX B

Nolin Subdivisions

1. Decker
2. Merediths
3. Oakridge
4. Hillview
5. Nolin Lakeside
6. Whittle
7. Beach Grove
8. Reynolds
9. Indian Hills
10. Ambassador Shore
11. Hidden Valley
12. Shiloh
13. Colonoway
14. K & P
15. Ponderosa
16. B & W
17. Kaufman
18. Linwood Estate
19. M. Sims
20. Rock Creek
21. Whispering Pines
22. Twin Coves
23. Sleepy Hollow
24. Lawrence Powell
25. Iberia
26. Grants
27. Up Rock Creek
28. Nolin Lake Estate
29. Dug Hill
30. Holiday Hill
31. Linwood Park
32. Cedar Cove
33. Clemons
34. Windy Ridge
35. Nolin Heights
36. Pine Springs
37. Sportsman's Paradise
38. Logsdon
39. Pine Haven
40. Laurel Run
41. Wax Area
42. Blands
43. A. Sims
44. Alvey
45. Up Dog Creek
46. Low Dog Creek
47. Woodland Acres
48. Basham and Ruderer
49. Cub Run Water View
50. Hicks
<table>
<thead>
<tr>
<th>No.</th>
<th>Community</th>
</tr>
</thead>
<tbody>
<tr>
<td>51.</td>
<td>South End Retreats</td>
</tr>
<tr>
<td>52.</td>
<td>Rich Brothers</td>
</tr>
<tr>
<td>53.</td>
<td>Sanders</td>
</tr>
<tr>
<td>54.</td>
<td>Brier Creek</td>
</tr>
<tr>
<td>55.</td>
<td>Laurel Ridge</td>
</tr>
<tr>
<td>56.</td>
<td>Wilderness Road</td>
</tr>
<tr>
<td>57.</td>
<td>Arrow Point</td>
</tr>
<tr>
<td>58.</td>
<td>Blue Spring</td>
</tr>
<tr>
<td>59.</td>
<td>Timberland Trails</td>
</tr>
<tr>
<td>60.</td>
<td>Nolin Park</td>
</tr>
<tr>
<td>61.</td>
<td>Wilson</td>
</tr>
<tr>
<td>62.</td>
<td>Langley</td>
</tr>
<tr>
<td>63.</td>
<td>Moore Haven</td>
</tr>
<tr>
<td>64.</td>
<td>Loof</td>
</tr>
<tr>
<td>65.</td>
<td>Quail Hollow</td>
</tr>
<tr>
<td>66.</td>
<td>Decker</td>
</tr>
<tr>
<td>67.</td>
<td>Greensword</td>
</tr>
<tr>
<td>68.</td>
<td>Nolin Terrace</td>
</tr>
<tr>
<td>69.</td>
<td>Lachober</td>
</tr>
<tr>
<td>70.</td>
<td>Diplomat Shores</td>
</tr>
<tr>
<td>71.</td>
<td>Pine Hurst</td>
</tr>
<tr>
<td>72.</td>
<td>Penninsula Point</td>
</tr>
<tr>
<td>73.</td>
<td>Green Acres</td>
</tr>
<tr>
<td>74.</td>
<td>Nolin Heights</td>
</tr>
<tr>
<td>75.</td>
<td>Nolin River Park Estate</td>
</tr>
</tbody>
</table>
APPENDIX C

Questionnaire

1. How long have you owned the property at Nolin Reservoir?
   A. Before 1960
   B. 1960 - 1963
   C. 1964 - 1966
   D. 1967 - 1969
   E. 1970 - 1974

2. What was the value of the land per acre when you bought the property?
   A. $200 - $500
   B. $501 - $800
   C. $801 - $1,000
   D. $1,001 - $1,500
   E. $1,501 - $2,000
   F. Over $2,000

3. Where is the property located?

4. What is the size of the property?

5. What do you think the value of the property per acre was five years ago?
   A. $200 - $500
   B. $501 - $800
   C. $801 - $1,000
   D. $1,001 - $1,500
   E. $1,501 - $2,000
   F. Over $2,000

6. What is the value per acre now?
   A. $200 - $500
   B. $501 - $800
   C. $801 - $1,000
   D. $1,001 - $1,500
   E. $1,501 - $2,000
   F. Over $2,000

7. What was the property used for when you bought it?
   A. Agriculture
   B. Pasture
   C. Live-stock
   D. Woodland
   E. Recreation
   F. Residential
8. If you sell the property will you sell to the private individual?
   A. Yes
   B. No

9. Where do the people buying property come from?

10. What is the age group common among the buyers?
    A. 20 - 25
    B. 26 - 30
    C. 30 - 40
    D. 41 - 50
    E. 50 - 60
    F. Over 60

11. What is your property used for now?
    A. Agriculture
    B. Live Stock
    C. Pasture
    D. Woodland
    E. Recreation
    F. Residential

12. Do you use the Reservoir for recreation?
    A. Yes
    B. No

13. How often do you use the Reservoir?
    A. Often
    B. Seldomly
    C. Never

14. What activities do you participate in when you go there?

15. Do you think there is going to be any development on the Reservoir in the near future?
    A. Yes
    B. No

16. Any suggestion on what you think should be done to improve the Reservoir...
REFERENCES CITED


U. S. Army Corps of Engineers, General Design Memorandum on Nolin Reservoir, Design Memorandum, Number 2, Louisville District Office, December, 1957.


U. S. Outdoor Recreation Resources Review Commission, 1962, Numbers 1, 4, 10, and 15.


INTERVIEW