



4ES16



3 1293 10063 2672

L



This is to certify that the

thesis entitled

AN EVALUATION OF MICHIGAN'S HUNTER ACCESS  
PROGRAM FROM THE PARTICIPANT LANDOWNER'S PERSPECTIVE

presented by

David George Feltus

has been accepted towards fulfillment  
of the requirements for

Master of Science degree in Department of Park &  
Recreation Resources

Major professor

Date November 8, 1979



MSU

OVERDUE FINES ARE 25¢ PER DAY  
PER ITEM

Return to book drop to remove  
this checkout from your record.

~~AUG 07 '82 026~~

~~JAN 25 '83 026~~

~~JAN 27 '83 003~~

~~FEB 28 '83 081~~

NOV 27 1990

327

JUN 13 1994

MAGIC 2

MAR 23 1999  
863

AN EVALUATION OF MICHIGAN'S HUNTER ACCESS PROGRAM  
FROM THE PARTICIPANT LANDOWNER'S PERSPECTIVE

By

David George Feltus

A THESIS

Submitted to  
Michigan State University  
in partial fulfillment of the requirements  
for the degree of

MASTER OF SCIENCE

Department of Park and Recreation Resources

## ABSTRACT

### AN EVALUATION OF MICHIGAN'S HUNTER ACCESS PROGRAM FROM THE PARTICIPANT LANDOWNER'S PERSPECTIVE

By

David George Feltus

In 1977 Michigan's Department of Natural Resources (DNR) initiated a program intended to increase hunting opportunities in southern lower Michigan. The DNR pays landowners to allow hunters on their land.

Many areas of uncertainty exist about the best way to conduct such a program. In order to remove some of these uncertainties current and former participant landowners were sent a questionnaire. The questionnaire included a variety of questions designed to: identify the landowner's characteristics as a population, provide information about their relations with hunters, and discover their likes and dislikes about the program.

Findings include that most respondents (77%) allowed public hunting prior to participation and described their relation with hunters as good or excellent (57%). Approximately a third of the respondents felt the program improved their relations with hunters and most respondents (96%) intend to continue participating.

For purposes of analysis respondents were divided into five subgroups: "all respondents", "all participants", "dropouts and non-renews", "non-urban fringe participants", and "urban fringe participants".

This thesis is dedicated to my parents, Without their support and faith in me it would not have been written.

## ACKNOWLEDGEMENTS

My thanks go to Donald Holecek, my major professor, for his help and encouragement throughout this study. I am also grateful to Daniel Stynes, who was always willing to give of his time and expertise.

Frances Piper's assistance in the preparation of the study was invaluable and is very much appreciated. Linda Hammar, who typed this thesis, deserves special thanks for her efforts.

I am also very grateful to the friends who helped me at all stages of my research and to the work study students who aided in the preparation of the survey.

Finally, I wish to thank Ed and Dianne Panozzo who have always been there when I needed them.

## TABLE OF CONTENTS

	<u>Page</u>
LIST OF TABLES.....	<i>vi</i>
CHAPTER	
I INTRODUCTION.....	1
Background Information.....	1
The Problem.....	4
Objectives of the Study.....	5
Limitations of the Study.....	7
Organization of the Thesis.....	8
II REVIEW OF LITERATURE.....	9
III METHODOLOGY.....	15
Sample Size.....	15
Census Characteristics.....	16
Questionnaire.....	17
Census Frame.....	18
Follow-up Procedures.....	19
Response Rate.....	19
Data Processing.....	20
Subgroup Composition.....	20
IV GENERAL FINDINGS.....	23
Data Presentation.....	23
Demographic Information.....	23
Socio-Economic Data.....	24
Summary: Demographic and Socio-Economic Data.....	31
Hunting.....	32
Hunter Relations.....	38
Summary: Hunting and Hunter Relations..	52
Program Participation.....	53
Summary: Program Participation.....	69
V. DISCUSSION OF SUBGROUPS.....	73
"Dropouts and Non-Renews" and "All Participants" Subgroups.....	77
"Non-Urban Fringe Participants" and "Urban Fringe Participants" subgroups.....	80



	<u>Page</u>
CHAPTER	
VI CONCLUSIONS AND RECOMMENDATIONS.....	85
Conclusions.....	85
Recommendations.....	88
Further Research.....	89
APPENDICES	
APPENDIX	
A. Questionnaire.....	92
B. Cover letters and Reminder Post- card.....	96
C. List of Cities and Type 1 and Type 2 Townships.....	101
D. Table 32: Percent Organization Membership.....	105
LIST OF REFERENCES.....	106

## LIST OF TABLES

	<u>Page</u>
TABLE 1.     RESPONDENTS WITH INCOME ABOVE OR BELOW STATE MEDIAN OF \$18,000 BY SUBGROUP...	24
TABLE 2.     PERCENT OF RESPONDENTS INCOME COMING FROM FARMING.....	25
TABLE 3.     PRIMARY REASON GIVEN BY RESPONDENTS FOR OWNERSHIP OF PROPERTY IN THE PAS PROGRAM.....	26
TABLE 4.     MEAN AND MEDIAN ACREAGE OWNED BY RESPON- DENTS IN SOUTHERN LOWER MICHIGAN BY SUBGROUP.....	28
TABLE 5.     ORGANIZATIONS TO WHICH MORE THAN TEN PERCENT OF THE RESPONDENTS BELONG, BY SUBGROUP.....	30
TABLE 6.     RESPONDENTS FIVE MOST IMPORTANT SOURCES OF INFORMATION ON MATTERS PERTAINING TO THEIR LAND.....	31
TABLE 7.     WHO RESPONDENTS ALLOWED TO HUNT ON THEIR LAND PRIOR TO PAS PARTICIPATION, BY SUBGROUP.....	33
TABLE 8.     NEW HUNTERS ON RESPONDENTS LAND FOR THE 1978-79 HUNTING SEASON.....	35
TABLE 9.     NUMBERS OF HUNTERS ON RESPONDENTS' PROPERTIES DURING THE 1978-79 HUNTING SEASON WHO HAD NOT HUNTED ON THEM IN PREVIOUS YEARS.....	36
TABLE 10.    PERCENT OF HUNTING USE BY PERIOD.....	37
TABLE 11.    RESPONDENTS RELATIONS WITH HUNTERS BEFORE PAS PARTICIPATION.....	39
TABLE 12.    RESPONDENTS' ATTITUDE TOWARDS HUNTING BY SUBGROUP.....	40

	<u>Page</u>
TABLE 13. SIGNIFICANT PROBLEMS WITH HUNTERS EXPERIENCED BY RESPONDENTS.....	42
TABLE 14. SIGNIFICANT PROBLEMS EXPERIENCED BEFORE AND AFTER PAS PARTICIPATION BY RESPONDENTS WITH HUNTERS, BY SUBGROUP.....	44
TABLE 15. MOST SIGNIFICANT PROBLEMS OF RESPONDENTS WITH HUNTERS, BY SUBGROUP.....	46
TABLE 16. RESPONDENTS' RANKING OF POTENTIAL PROBLEMS BY SUBGROUP.....	48
TABLE 17.. CROSS-TABULATION OF MEAN SCORE FOR PROBLEMS BY WHETHER OR NOT RESPONDENT HAD SIGNIFICANT PROBLEMS WITH HUNTERS.....	50
TABLE 18. CHANGE IN RESPONDENTS' RELATIONS WITH HUNTERS AFTER PROGRAM PARTICIPATION, BY SUBGROUP.....	51
TABLE 19. RESPONSES BY SUBGROUP ON WHETHER PARTICIPANTS' NEIGHBOR COMMENTED ON HIS PAS PARTICIPATION.....	53
TABLE 20. BREAKDOWN OF NEIGHBOR COMMENTS ON PROGRAM PARTICIPATION BY SUBGROUP.....	55
TABLE 21. PROGRAM FEATURES WHICH RESPONDENTS LIKE BEST, BY SUBGROUP.....	56
TABLE 22. WHAT RESPONDENTS LIKE LEAST ABOUT THE PAS PROGRAM.....	58
TABLE 23. POSSIBLE CHANGES IN PAS PROGRAM WHICH RESPONDENTS CONSIDERED IMPORTANT.....	60
TABLE 24. AVERAGE RANKS FOR IMPROVEMENT SUGGESTIONS	61
TABLE 25. RESPONDENTS' FIVE MOST FREQUENT IMPROVEMENT SUGGESTIONS.....	63
TABLE 26. RESPONSES BY SUBGROUP ON WHETHER PARTICIPANTS WOULD BE WILLING TO PARTICIPATE IN PAS PROGRAM WITHOUT RENUMERATION.....	64
TABLE 27. CROSS-TABULATION OF RESPONDENTS WHO HAVE DROPPED OUT OF THE PAS PROGRAM OR WHO DO NOT INTEND TO RENEW THEIR LEASE BY URBAN FRINGE STATUS.....	66

	<u>Page</u>
TABLE 28. WHY DROPOUTS DISCONTINUED PARTICIPATION...	67
TABLE 29. REASONS GIVEN FOR RENEWING PAS PROGRAM LEASE, BY PARTICIPANT SUBGROUP.....	68
TABLE 30. REASONS GIVEN FOR NOT RENEWING PAS PRO- GRAM LEASE.....	70
TABLE 31. COMPARISON OF SUBGROUP RESULTS.....	74
TABLE 32. PERCENT ORGANIZATION MEMBERSHIP.....	105

## CHAPTER I

### INTRODUCTION

Throughout the United States, hunting pressures on public lands are rising. This problem is especially evident in Michigan where 90% of the state's population is confined to its southern third (Zone III). Over three-quarters of Michigan's hunters also live in this region. In order to increase hunting opportunities for these roughly 375,000 hunters the Michigan Department of Natural Resources (DNR) has established the Public Access Stamp (PAS) program. This study was designed to evaluate the program and provide information to help improve and expand it.

#### Background Information

While landowners have the right to restrict access to their property, the game living on their land is a common property resource. It has traditionally been the responsibility of the states to provide or insure access to this resource. However, providing and insuring such access is becoming increasingly difficult and expensive.

Michigan encompasses more than 36,000,000 acres of land. Over one-third of this land is closed to hunting for a variety of reasons (Boyce, 1975). This figure does not include posting against hunting on any of the state's roughly 12,000,000 acres of farmland. There are only 40 acres of

land per Michigan hunting license and only four acres per Michigan resident (Womach, 1975). If you divide the state into three roughly equal parts, one of these parts, the southern one-third of the state (Zone III), contains 90% of the population. It contains 80% of the state's hunters (Boyce, 1975).

Many Michigan hunters complain of increased posting and claim they must travel further to hunt and that they hunt less than they did in the past (Womach, 1975). In 1955, 15% of Michigan wildland was fenced (Barrett, 1955). A 1958 study of pheasant hunting found that 41% of the farmers asked, refused to allow hunting on the first request (Zorb, 1959). Palmer (1967) found that 25% of hunters sampled had trouble getting or never got permission to hunt on private lands. Only 6% of the hunters sampled were seldom or never refused permission to hunt. In the same study hunters who hunted exclusively on the private land of strangers averaged less than seven days in the field, the lowest of any Michigan group.

There are only 260,000 acres of huntable state owned land in southern lower Michigan (Womach, 1975). Hunters who hunt on those lands average over eight days in the field per season, the highest of any Michigan group (Palmer, 1967). They have better hunting success than private land hunters as well. A partial reason for this may be that private land hunters hunt where they know they will be accepted, rather than take chances asking to hunt on new land with good habitat where they may be refused.

State game areas studied in 1955-56 and 1961-62 showed a 62% increase in man hours hunted in the five year period between studies (Palmer, 1967). During the 1965 hunting season non-hunting use of state owned game lands was only 4%. By the 1975-76 season such use had risen to 44% (Belyea and Lerg, 1976).

Competition between hunters and non-hunting users of state game land is rising rapidly. In the past the solution to this kind of problem has been the fee simple acquisition of additional public land.

However, as open lands have decreased in size and number, acquisition costs have risen dramatically (Mahoney, 1975). The opportunity costs of forgone products from farm and other lands acquired for exclusive recreational use have also risen. Michigan agencies charged with the acquisition of recreation lands, estimated that between 1971 and 1975 acquisition costs rose approximately 18%.

In many cases, purchase of new land for hunting use is too costly and removal of land from production may be too damaging to be practical. In Michigan these problems are compounded by the requirement that the DNR pay full property taxes on state owned hunting land. Each new purchase imposes a permanent financial burden on the agency. Less than fee simple techniques for acquiring hunting rights on private lands may help solve these problems. Easements in particular, are less expensive and less disruptive of production than other methods of land acquisition (Mahoney, 1975). Easements secure rights of use, or limitations on use and do not

displace the original owner.

### The Problem

The Michigan Department of Natural Resources' Public Access Stamp (PAS) program was conceived and designed to combat the increasing scarcity of hunting lands. The program acquires hunter access rights, or easements<sup>1</sup>, on private lands in Zone III, the southern third of Michigan.

Rural landowners are paid by the DNR's Wildlife Division to allow public hunting on their land. The fee varies from \$.50 to \$2.50 per acre depending upon the land's habitat quality. For this money landowners must post their land with signs indicating that they are participants in the program and must be available to issue permission tags to hunters who wish to hunt. Landowners must allow any licensed hunter access to their land but may limit numbers to one for every ten acres of land they have in the program.

The first hunting season (1977-78) that the program was in operation, 473 landowners representing 93,500 acres of hunting land participated. For the 1978-79 season 65 new landowners were enrolled and 12,500 acres of land were added to the program.

In 1982 the PAS program will come up for legislative reapproval. At that time, the program's success in expanding Zone III hunting opportunities will be evaluated. This study

---

<sup>1</sup> While the DNR calls the agreements "leases" they are not, at least in the legal definition of the term. "Easement" comes closer to describing their function.



was supported, in part, by the DNR in order to acquire information which would be useful in evaluating and improving the program. Three groups are important in such an evaluation, landowners, hunters, and DNR Wildlife Division personnel. Ideally, all three would be sampled to provide information for program evaluation. However, time and cost factors limited this study to a subset of the landowner group.

Current and former participant landowners were selected as the target group for this study. They were chosen for several reasons:

- (1) The relatively low number of acres and landowners enrolled, viewed as problems by DNR program administrators, are best addressed by current and former participant landowners.
- (2) Current and former participant landowners are more familiar with the program than the general population of rural landowners.
- (3) Lists of current and former participant landowners were readily available from the DNR.

#### Objectives of the Study

The general objective of this study is to provide information which will enable the Michigan Department of Natural Resources to make the PAS program more effective.

The study's specific objectives are:

- (1) Identify demographic and socio-economic characteristics of current and former program participant landowners.

- (2) Determine current and former participant landowners' relations with hunters.
  - (a) Relations before participation
  - (b) Relations after participation
- (3) Determine current and former participant landowners' problems with hunters.
  - (a) Problems before participation
  - (b) Problems after participation
- (4) Identify major likes and dislikes about the PAS program for current and former participant landowners.

In order to accomplish the first of these objectives respondents were asked a variety of questions about their income, land ownership, organization membership, and information sources. The second and third objectives were addressed by questions on the landowner's attitude towards hunting, past and present hunter relations, and hunter related problems. The final objective was the subject of a number of questions on major likes and dislikes about the program, improvement suggestions, reasons for continuing or discontinuing participation, and compliance with program regulations.

While the questionnaire included over 50 questions, data from only 33 of them are reported in this analysis. Results from questions not included in this thesis were omitted for several reasons. First, a few questions were frequently misinterpreted by respondents, greatly impairing interpretation of the data. Second, in several cases questions were included as "double checks" on response consistency. When

responses to this type of questions were consistent with those to the primary question the "double check" responses were omitted. Third, some questions, despite appearing to be useful, failed to provide information pertinent to achieving study objectives. Finally, the mass of data accumulated far exceeded that which could be presented in one document.

### Limitations of the Study

The study has four major limitations: respondents' misinterpretation of questions, recall problems, self-evaluation bias and non-response bias. Misinterpretation of questions is inescapable with a mailed questionnaire because there is no interviewer to clarify confusing or misleading questions. Many problems of this type were discovered and corrected during pretests of the questionnaire (see Appendix A for copy of questionnaire).

Recall problems occur when respondents are asked to supply information on events which they may have forgotten, or remember inaccurately. These problems increase in severity as the period between an event and a request for information about that event lengthens. Additionally, specific information is subject to greater recall problems than general information. While steps were taken to minimize recall problems in this study, they may still be significant for several questions.

Self-evaluation bias can occur when respondents are requested to answer questions which they believe can affect their well being. Such questions as "Would you be willing to pay two dollars more than you are now paying to use the

swimming beach?" tend to elicit negative responses, even from those respondents who would be willing to pay, if those sampled believe their responses might cause the agency in question to actually increase the beach use charge. On the other hand, if respondents feel certain their responses won't affect agency policy they may tend to exaggerate their willingness to accept fee increases and other "negative" policy decisions.

Non-response bias may be present and undetected because the high response rate obtained with the census made non-response follow-up appear unwarranted. However, recent work by Brown and Wilkins (1978) indicates that "where a notable proportion of the sample (even 10 or 15 percent) has withdrawn from, or is no longer actively involved in the subject of the survey" nonresponse bias can be especially high. The Public Access Stamp program fits this description quite closely and non-response bias, if present, would most likely affect results for "all respondents" and the "dropouts and non-renews" subgroups.

#### Organization of the Thesis

The thesis is divided into 5 additional chapters. Chapter II is comprised of a review of literature pertinent to this study. In Chapter III study methodology is discussed. The principle findings of the study are presented in Chapter IV. The subgroups are discussed in Chapter V and conclusions are presented in Chapter VI.

## CHAPTER II

### REVIEW OF LITERATURE

Four studies will be discussed in this chapter. The first three dealt with the general issue of public access to private land in Michigan. The final study was conducted to evaluate the Agricultural Stabilization and Conservation Service's (ASCS) Pilot Public Access Program. This program was a nation wide experiment in providing public recreational access to private farm land.

In a study of landowners in southern lower Michigan's "thumb" area Parker (1975) found that their median age lay between 51 and 60 and that 65% of them had incomes of over \$10,000. per year. Sixty-one percent received at least half of their income from their land. Respondents' median acreage was 156 acres. This figure is biased in an upwards direction because no landowners owning less than 50 acres were sampled and response rates for larger landowners were higher than that for smaller landowners. Further findings include that 85% of the respondents allowed at least some public hunting. More than half (52%) of the respondents reported having trespass problems with hunters, and 28% reported hunter discourtesy. Property damage (26%) and carelessness with firearms (16%) were also mentioned as problems.

Landowners in the Parker study were asked about their attitude towards "fee hunting". "Fee hunting" was described as "any system which would enable the landowner to earn additional income by charging people to hunt on his property." Landowners opposed to "fee hunting" comprised 38% of the sample and those who felt "fee hunting" was not worthwhile made up 28%. While 38% expressed some interest in "fee hunting". Interest in "fee hunting" increased with the number of acres owned, and 50% of those respondents owning 260 or more acres expressed some interest in it.

Seventy-four percent of those responding to the question felt \$5.00 or less per acre per year would be sufficient compensation for having "fee hunting" on their land. Only 37% of the respondents felt that such a program should be conducted by government "leasing" of hunting rights.

Respondents expressed a number of concerns when asked about participation in a formal public access program. Among them were control of trespass (93%), liability (93%), and property damage (86%). Both the right to exclude hunters whom the landowners did not wish hunting on their land and a limitation on hunter numbers were felt to be highly desirable program attributes by 98% of the respondents.

Westfall (1974) in a study of 195 Kent County landowners found them to have a mean and median age of 53.8 years. More than 68% of the respondents had incomes of over \$10,000 per year. The average size of the parcel investigated was 47.6

acres.<sup>1</sup> The primary ownership objective for slightly over 31% of them was farming, while almost 13% specified investment.

Only 65.4% of the respondents allowed public hunting on their land while 97.8% of them had such requests. Damage was cited by 35.7% of the respondents as their first reason for not allowing public hunting. Almost 20% cited safety as their first reason, and control (16.1%) and moral considerations (14.3%) were given as first reasons by a significant percentage of the respondents.

Of the 12 respondents giving a second response, reasons for not allowing public hunting included damages (33.3%), liability (25%) and safety (25%).

In another question, respondents were asked to rate the importance of a series of factors in relation to public recreational use of their land. Damages were rated as very important by 61.1% of the respondents, control was rated very important by 54.9%, liability by 51.7% and number of hunters by 51.7%.

Only 26.9% of the respondents were in favor of a government program to provide public hunting on private land. Over 80% of those favoring such a program were willing to participate for \$4.00 per acre or less.

---

<sup>1</sup> Westfall supplies acreage data on only one parcel for each landowner.

A study of 486 rural landowners was conducted by the Michigan DNR in 1975 (Kitchel, 1978). Slightly over 68% of the respondents were 45 or older. Less than 45% of the respondents owned more than 80 acres of land and less than four percent owned more than 240 acres.<sup>2</sup> The average respondent owned 81 acres in Livingston County. Only ten percent of those sampled considered themselves to be full time farmers, but approximately 40% did at least some farming.

Kitchel found that 55.3% of those sampled allowed strangers who asked permission and/or anyone not causing problems (with or without permission) to use their land. Over half the respondents reported having problems with hunters using their land. Thirty-eight percent felt that landowner problems with "uninvited people" had increased over the past few years. The most commonly cited problem was property damage, with loss of privacy and noise or general disturbance also receiving frequent mention.

In regard to the state's leasing of private land for recreation 58.7% thought it was a good idea. However, only 33.8% thought license fees ought to be used to pay for the leases.

The following study investigated landowner reactions to the ASCS Pilot Public Access Program (Womach, 1975). This program, which operated from 1971 to 1976, acquired public recreation rights on rural land for a variety of activities

---

<sup>2</sup> Applies only to total rural acreage owned in Livingston County and excludes parcels less than 15 acres in size.



including hunting.

Participants were limited to landowners who were already associated with the ASCS. For the most part, this restricted participation to farmers. This is in marked contrast to Michigan's PAS program in which any rural landowner may enroll.

The ASCS program allowed landowners to submit bids offering their land for up to \$3.00 per acre. The ASC county committee then selected the lowest bidders for the desired habitat types.

The program operated in ten states of which one was Michigan. Five counties in Michigan were involved in the program and 145,000 acres were enrolled.

The Womach study was confined to hunting use of the program lands but included non-adjacent and adjacent non-participant landowners as well as program participants. Findings include that participants felt they had increased visitation and claimed almost twice as many hunting visits as non-participants. Participating farmers generally wanted the program continued. Almost three quarters (74%) of the participants allowed public hunting prior to the program.

Womach concluded that Michigan was one of the states in which the program was most successful and that Michigan could benefit from expansion of the program. However, the final recommendation of the study was that because the program increased hunting opportunities through providing information rather than by actually increasing acres available, it should be discontinued.

Summary: Literature Review

The picture of Southern Lower Michigan rural landowners which emerges from these studies shows the landowners to be largely middle aged or older. The acreages owned are generally small, for the most part less than 80 acres. Farming is the primary reason for ownership for about one-third of the respondents.

More than half of those surveyed allow the public to hunt on their lands, but many of the landowners had problems with hunters. Chief among the problems mentioned was damage. Liability and control were also considered important.

Approval of a government sponsored program to acquire hunting rights on private lands ranged from 26.9% to 58.7%. Among those who approved, the fee level required to involve them in such a program was generally below \$5.00 per acre.

In a study of the ASCS Pilot Public Access Program, Womach found that participant landowners generally liked the program and that almost three quarters of them had allowed public hunting prior to participation. Womach also found the program was generally successful in Michigan and that Michigan could benefit from expansion of such a program.

The Public Access Stamp program is an extension of an ASCS type program. This study is designed to evaluate and provide information to help improve and expand it.

## CHAPTER III

### METHODOLOGY

The data for the study were obtained by mailed questionnaire. The questionnaires were sent to all current and past participants in the Michigan Department of Natural Resources' Public Access Stamp (PAS) program. Follow-up procedures consisted of a postcard to non-respondents followed by a letter and second questionnaire to those who still had not responded. The Statistical Package for the Social Sciences (SPSS) was used to perform the data analysis.

#### Sample Size

Initially sample size was to be determined by the number of respondents required to confine sampling error to  $\pm 5\%$  with a 95% confidence interval. In order to establish this confidence interval an estimate of population variance had to be made. Data from a study of Kent County landowners (Westfall, 1974) was available for estimation of population variances. Estimates were obtained from responses given by landowners who favored paid public access hunting on private lands. Variances were obtained for questions similar to those used in the PAS study.

Most of the relevant questions were coded as binomial variables. For several questions there was a 50/50 percentage

distribution between responses. This distribution produces the maximum variance for binomial variables. A sample size of four hundred is required to achieve the desired confidence interval (95%) and level of confidence ( $\pm 5\%$ ) in such cases (Babbie, 1973). Since this sample size closely approached the total size of the population in question a census study was conducted rather than a sample survey.

### Census Characteristics

The primary advantage of a census is that it virtually eliminates sampling error. Of course, the problem of non-response bias remains and is of greater or lesser impact depending on the response rate. Primary disadvantages of census are the time and money required, but in the case of the Public Access Stamp program the size of the total population was small enough to make a census study feasible.

Interpretation of census data is a significantly different from interpretation of survey data. Though such statistical measures as mean, variance, and median still pertain, measures of significance such as chi-square, lambda, gamma, T-tests, etc. are not applicable. These and other tests of significance are used to make inferences about a population from a sample, whereas a census supplies information about a population directly. As a result only descriptive statistics are used to convey the findings of this study.

### Questionnaire

The choice of a mailed questionnaire as the census instrument was dictated by time and cost factors. Financial and personnel resources were limited, and no other means of contacting the 609 current and former PAS participants was as inexpensive in time and money as a self-administered mailed questionnaire.

Low response rates and improper question interpretation by respondents are the main disadvantages of this type of census instrument. To avoid a low response rate a cover letter stressing the need for information and the importance of the landowner's response was included with the initial questionnaire. Cover letters to known dropouts were worded somewhat differently than the participants' cover letters, again in hopes of maximizing response (see Appendix B for cover letters and postcards). A follow-up postcard and the cover letter mailed with a second questionnaire were similarly worded. The questionnaire was kept as brief as possible while still fulfilling the needs of the study and was printed on blue paper, a color previously found to maximize response rates. The questionnaire was mailed out March 12, 1979, 11 days after the hunting season ended, in order to obtain responses while program participants retained a high level of interest and their recall was still fresh. In order to minimize improper question interpretation questions were kept as direct and simple as possible and additional clarification was included where necessary.

Development of the questionnaire began in the spring of 1978 and included personal interviews with several PAS participants landowners. Because of the lengthy delay between these interviews and the census itself, these landowners were not excluded from the study.

In February of 1979 the census instrument was pretested. Prototype questionnaires were mailed to 25 participant landowners. Twenty-three respondents returned the questionnaire. Because of the close similarity between the pretest and the final census instrument, pretest respondents were included in the final data analysis. Revisions were completed in February and the final version of the questionnaire was mailed out early in March.

#### Census Frame

The census population numbered 609. It was taken from two sources: the 1978-79 list of PAS participant landowners published by the Michigan DNR for use by Southern Lower Michigan hunters, and a list of program dropouts supplied to the researchers by the DNR. Thus, the census population consisted of all current and former PAS program participants. To insure that responses came from this population the cover letter indicated that the current or former PAS leasee should be the one to complete the questionnaire. In order to prevent landowners from receiving more than one questionnaire the census lists were checked and duplicate names removed.

### Follow-up

Daily response, rather than a predetermined schedule, determined when follow-up procedures were carried out.

Reminder postcards were sent out when response had fallen to eight or nine questionnaires per day. This occurred 16 days after the initial mailing. Respondents' names were individually typed in the salutation and the postcards were hand signed by the researcher.

The second questionnaire and cover letter were mailed out 8 days after the postcards were mailed when response had fallen to four questionnaires per day. Non-respondents' names were again individually typed in the salutation and the letters were hand signed by the researcher.

Response fell to three questionnaires per day 12 days after the second questionnaire was mailed, but by that time 84% of the questionnaires had been returned and no further follow-up was performed.

### Response Rate

The final response rate for usable questionnaires was 85.2% (499/586). Adding the 23 pretest respondents gave a total of 522 questionnaires available for analysis and raised the response rate slightly.

Non-response can probably be attributed to variety of factors. Death and relocation played a part, as well as duplicate names which had not been caught when the lists were checked. In addition some landowners were never actually in the program, despite the fact that the DNR listed them as participants. Several blank questionnaires were returned

representing each of these groups. The overall response rate rose to 87.6% when these questionnaires were subtracted from the census lists. Three blank questionnaires were returned with notes indicating that the respondent didn't feel it was necessary to complete the questionnaire and two were returned unanswered with no explanation. This represents a lack of interest on the part of the respondents and most landowners with a similar lack of interest probably neglected to return the questionnaire. Speculation could undoubtedly uncover other reasons for non-response. However, with less than 13% of the census population failing to return a usable questionnaire no such speculation was entered into.

#### Data Processing

Responses were coded onto standard computer coding forms. The forms were then spot checked for errors and the error rate found acceptable. Key punching and verification were carried out by the Data Preparation Service at Michigan State University computer laboratory. Analysis was completed using the SPSS program on Michigan State University's Control Data Systems 6500 computer. Cases with anomalous values for variables were separated out and the errors corrected.

#### Subgroup Composition

In most cases results presented in tables are broken down into five subgroups. The subgroups are:

- (1) All respondents: this group includes responses from all current and past participants in the Public Access Stamp Program who



returned a usable questionnaire. N=522.

- (2) All participants: this group is made up of all respondents who have not dropped out of the PAS program and who either definitely intend to renew their PAS lease when it expires or are not sure if they will renew or not. N=446.
- (3) Dropouts and non-renews: this group includes respondents who have either dropped out of the program or who do not intend to renew their lease. N=76.
- (4) Non-urban fringe participants: this group is made up of participants (as defined under group 2) who have no property in a township into which the boundaries of a city with a population of at least 50,000 intrude (type 1 township) or property in a township adjacent to such a township (type 2 township)<sup>1</sup> N=387.
- (5) Urban fringe participants: this group is composed of participants (as defined under group 2) who have property in a township into which the boundaries of a city with a population of at least 50,000 intrude (type 1 township) or a township adjacent to such a township (type 2 township). N=83.

---

<sup>1</sup> For a complete list of cities and Type 1 and Type 2 townships see Appendix C.

Data on "all respondents" is provided to give an overview of study results and to allow readers to compare this study's respondents to rural landowners in other studies of a similar nature. It also serves as a proxy "general population" of past and present program participants with which to compare other subgroups.

The next two subgroups are the "all participants" and the "dropouts and non-renews". These subgroups were established for two reasons. First, it was thought that such a dichotomy might provide information with which to identify landowners likely to remain in the program, or conversely, those likely not to remain in it. Second, it was felt that by isolating those respondents who had dropped out or did not intend to renew their lease the problems associated with program discontinuation might be pinpointed. In short, it was thought that this dichotomy might provide information on who drops out and why.

The final two subgroups are "non-urban fringe participants" and "urban fringe participants". This dichotomization was an attempt at market segmentation. If different concerns or characteristics were identified for those two groups, the DNR's approach to enrolling them could be structured to take these differences into account. This potential dichotomy is important because the DNR is especially interested in enrolling increased numbers of near urban landowners in the PAS program.

## CHAPTER IV

### GENERAL FINDINGS

#### Data Presentation

Data presentation in this chapter is broken down into five sections: demographic data, socio-economic data, hunting, hunter relations, and program participation. The section on demographic data presents a breakdown of the sex and age of census respondents. Under the socio-economic heading data on income, land ownership, and "social orientation" are presented. In the sections on hunting and hunter relations data on who was allowed to hunt prior to program participation, hunter numbers, the landowner's relations with hunters, and hunter related problems are discussed. Finally, the section on program participation deals with neighbors' opinions of the program, participants' satisfactions and dissatisfactions with the program, suggested changes in the program, and reasons for continuing or discontinuing participation in the program.

#### Demographic Information

Most of the respondents were male (92% overall). The average age ranged from 55.5 for the "dropouts and non-renews" subgroup to 58,3 for the "urban fringe participants" subgroup. Households averaged three residents for all groups.

The average ages for the subgroups are somewhat higher than the 1974 average age for farm operators of 51.7 years (Census of Agriculture: 1974). Whether this represents a difference between PAS participants and farm operators, or a general shift in average age of rural landowners cannot be determined.

#### Socio-Economic Data

Distribution of respondents' income around the \$18,000 median income used in this study is depicted in Table 1. "Urban fringe participants" is the wealthiest group with 44.0% having incomes above \$18,000; "non-urban fringe participants" have the lowest number (36.0%) of respondents with incomes above the median; and "dropouts and non-renews" fall in between with 40.3% having incomes above \$18,000.

TABLE 1

WHETHER OR NOT RESPONDENT'S INCOME WAS ABOVE  
OR BELOW STATE MEDIAN OF \$18,000, BY SUBGROUP

Subgroup	Number of Responses	Above		Below	
		Number	Percent	Number	Percent
All respondents	483	183	37.9	300	62.1
All participants	411	154	37.5	257	62.5
Dropouts & non-renews	72	29	40.3	43	59.7
Non-urban fringe participants	356	128	36.0	228	64.0
Urban fringe participants	79	35	44.3	44	55.7

This pattern is repeated, but reversed, in Table 2 which summarizes the percent of income respondents derive from farming. An average of 38.2% of the income of "non-urban fringe participants" comes from farming, and an average of 33.4% of the income of "dropouts and non-renews" comes from farming. "Urban fringe participants" reported the lowest (32.4%) average percent of income from farming.

TABLE 2  
PERCENT OF RESPONDENT'S INCOME  
COMING FROM FARMING

Subgroup	Number of Respondents	Mean Percent Income From Farming	Median Percent Income From Farming*
All respondents	468	36.7	20.0
All participants	399	37.3	20.0
Dropouts & non-renews	69	33.4	10.3
Non-urban fringe participants	346	38.2	20.4
Urban fringe participants	72	32.4	10.1

\*Half of the respondents received less than this percentage of their income from farming and half received more.

Table 3 shows the percent of respondents indicating each of four primary reasons for ownership. Farming is the most frequently specified reason for all groups. The next most important reason for ownership of PAS leased lands is for

TABLE 3

PRIMARY REASON GIVEN BY RESPONDENTS FOR  
OWNERSHIP OF PROPERTY IN THE PAS PROGRAM<sup>1</sup>

Subgroup	Number of Respondents	Farming Percent	Recreation Percent	Investment Percent	Residence Percent	Other <sup>2</sup> Percent
All respondents	511	38.2	2.3	13.3	24.7	21.4
All participants	440	38.9	2.0	12.5	25.0	21.6
Dropouts & non-renews	71	33.8	4.2	18.3	22.5	21.1
Non-urban fringe participants	383	39.9	2.1	11.7	24.3	22.2
Urban fringe participants	80	32.5	1.2	20.0	28.8	17.5

<sup>1</sup> Subgroup percent totals may not equal 100% due to rounding

<sup>2</sup> Multiple responses account for approximately 90% of the response in the "Other" category, cases where respondents specified more than one major reason for ownership

residence purposes, followed in order by "other"<sup>1</sup>, investment, and recreation. Differences between groupings are generally quite small.

Mean and median acres of land owned by respondents are displayed in Table 4. It is important to note that 2 or 3 extreme values have raised the mean acreages for the "dropouts and non-renews" and "urban fringe participants" groups. Without those extreme values "dropouts and non-renews" would have a mean acreage of 182 acres and the mean for "urban fringe participants" would be reduced to 199 acres.<sup>2</sup> Because of this distortion, the median is probably to be preferred for making acreage comparisons among subgroups.<sup>3</sup> Table 4 shows that "non-urban fringe participants" have the largest median acreage (159.8 acres), "urban fringe participants" the next largest (153.0 acres), and "dropouts and non-renews" the smallest median acreage (120.2 acres). Even after adjustments are made for the bias introduced by the large holdings, the average respondent owns considerably

---

<sup>1</sup> The "other" category was used for all respondents who selected more than one response to this questionnaire item. For example, a respondent listing both farming and recreation as the primary reason for ownership would have been coded as "other".

<sup>2</sup> These are not the true means and should not be substituted for Table 4 means. They are presented for illustration purposes only.

<sup>3</sup> The median is that number in an array of numbers which divides it in half. 50% of the numbers in an array are below the median and 50% are above it.

more than the 81 acres owned by the average southern lower Michigan rural landowner (Kitchel, 1978).

It was hypothesized that landowners differed in other ways than those discussed thus far. One such characteristic which might prove useful in classifying landowners is that of "social orientation".<sup>4</sup> It was concluded that membership in organizations would provide an indicator of respondent social orientation. Respondents have a strong agricultural orientation in their organization membership.

TABLE 4  
MEAN AND MEDIAN ACREAGE OWNED BY RESPONDENTS  
IN SOUTHERN LOWER MICHIGAN BY SUBGROUP

Subgroup	Number of Responses	Mean Acres	Median* Acres
All respondents	495	236.3	157.0
All participants	423	229.8	159.6
Dropouts and non-renews	72	274.0	120.2
Non-urban fringe participants	366	224.2	159.8
Urban fringe participants	79	249.0	153.0
*Half of the respondents own less than this number of acres and half own more.			

(See appendix for complete breakdown). Forty-eight percent

<sup>4</sup> Social orientation in this case refers to how landowners interact in society based upon their economic, moral and other circumstances.



of all respondents belong to at least one agricultural organization, while only 11% belong to at least one sporting organization, and less than 4% belong to any environmental organizations. As can be seen from Table 5 the Farm Bureau alone can claim from 25.9% to 41.7% of each subgroup and the Soil Conservation Society (SCS) from 11.1% to 18.1%. The "dropouts and non-renews" subgroup has the largest membership in both those organizations. In fact, the "dropouts and non-renews" subgroup has the highest percentage of organization membership overall. Only 44.4% of dropouts and non-renews" subgroup members do not belong to any agricultural, sporting or environmental organization. On the other hand, 64.2% of the "urban fringe participants" subgroup members do not belong to any of these kinds of organizations.

What people read also provides insight into their social orientation and provides a potential vehicle for communicating with them. Table 6 shows the five sources respondents cited most often when asked where they found information about their land. Three of the five are magazines. The percent of respondents who indicated one of the magazines as one of his or her most important sources of information ranged from 29.7% for Michigan Farmer to 9.5% for Successful Farming. Of the two other sources, the Grand Rapids Press, a daily newspaper, was specified by 13.9% of "all respondents" and the Agricultural Stabilization and Conservation Service (ASCS) by 10.9%.

TABLE 5

ORGANIZATIONS TO WHICH MORE THAN TEN PERCENT  
OF THE RESPONDENTS BELONG, BY SUBGROUP

Subgroup	Number of Responses	Farm Bureau		SCS		None	
		Number	Percent	Number	Percent	Number	Percent
All respondents	494	184	37.3	73	14.8	226	45.8
All participants	422	154	36.5	60	14.2	194	46.0
Dropouts & non-renews	72	30	41.7	13	18.1	32	44.4
Non-urban fringe participants	363	138	38.0	54	14.9	157	43.3
Urban fringe participants	81	21	25.9	9	11.1	52	64.2

TABLE 6

RESPONDENTS' FIVE MOST IMPORTANT SOURCES OF INFORMATION  
ON MATTERS PERTAINING TO THEIR LAND

Sources	Number	Percent
Organization		
ASCS	47	10.9
Magazines		
Farm Journal	56	13.0
Michigan Farmer	128	29.7
Successful Farming	41	9.5
Newspaper		
Grand Rapids Press	60	13.9

The relatively high readership for the Grand Rapids Press is probably due to the fact that 95 (18.2%) of the 522 respondents to the study questionnaire live in Kent County where Grand Rapids is located. On the other hand, the percentage of respondents considering the ASCS, Farm Journal, Michigan Farmer, and Successful Farming to be important sources of information is lower than might be expected given the rural residence of most participants. A partial explanation for this, as well as for the similarly moderate figures for Farm Bureau and Soil Conservation Society membership may be that, as mentioned earlier, only 28.3% of "all respondents" consider farming to be their primary reason for land ownership.

Summary: Demographic and Socio-Economic Data

In summary, most PAS program participants are male and somewhat older on the average than rural landowners in general.

Participants tend to own moderately large amounts of land in southern lower Michigan when compared to the average rural landowner. More than half of all participant households have incomes below \$18,000 per year. Farming accounts for an average of 37.3% of this income and is the primary ownership reason for 38.9% of participants. Organizational membership and participants' major information sources reflect a similar level of agricultural orientation. After this delineation of the demographic and socio-economic characteristics of the census population the next step in the study was to examine the respondents' attitudes toward hunting and their relations with hunters.

### Hunting

In an effort to discover to what degree the PAS program opened up previously closed land to hunting, participants and dropouts were asked whom they allowed to hunt on their land prior to program participation. Although the differences are surprisingly small, the results, displayed in Table 7 show that "dropouts and non-renews" had generally been the most restrictive subgroup. However, 74.3% of them had allowed anyone either with or without permission to hunt on their lands prior to participation. "Non-urban participants" had been the least restrictive subgroup, 79.1% allowing anyone with or without permission to hunt on their lands. This probably indicates the program primarily attracts landowners who already feel comfortable about public hunting on their lands.

TABLE 7

WHO RESPONDENTS ALLOWED TO HUNT ON THEIR  
LAND PRIOR TO PAS PARTICIPATION, BY SUBGROUP\*

Subgroup	Number of Respondents	No One Percent	Paying Hunters Percent	Friends and Relatives Percent	Anyone with Permission Percent	Anyone without Permission Percent
All respon- dents	508	.8	.8	20.9	61.8	15.7
All participants	438	.5	.7	20.8	61.4	16.7
Dropouts & non- renews	70	2.9	1.4	21.4	64.3	10.0
Non-urban fringe participants	379	.5	.5	21.1	61.7	16.1
Urban fringe participants	81	0.0	2.5	18.5	59.3	19.8

\*Percents may not total 100 due to rounding.

It is possible that the PAS program encourages hunting on previously open land by providing certainty of acceptance and information about location to hunters who have not previously hunted on these properties. To get some estimate of the impact of all the program's services (i.e. opening new land, providing certainty, and locating parcels), landowners were asked if they serviced any new hunters, and if so how many. Table 8 summarizes responses to whether or not participants had any hunters hunt on their land for the first time during the 1978-79 hunting season. Approximately 95% of "non-urban fringe participants" and 98.8% of "urban fringe participants" had new hunters. Only 86.2% of the "dropouts and non-renews" subgroup reported new hunters during the 1978-79 season (the figure for "dropouts and non-renews" may be depressed by those that left the program prior to the 1978-79 season). These figures would indicate that the program does provide services other than opening previously closed lands and that these services do increase hunting opportunities. However, there is a possible self evaluation bias with this data. Respondents may have felt that answering "no" to the question could adversely affect their participation in the PAS program. If this bias is present more landowners may be reporting new hunters than actually had them.

TABLE 8

RESPONSES BY SUBGROUP ON WHETHER OR NOT RESPONDENTS  
HAD ANY HUNTERS HUNT ON THEIR LAND FOR THE 1978-79  
HUNTING SEASON WHO HAD NOT HUNTED ON IT BEFORE

Subgroup	Number of Responses	<u>Yes</u>		<u>No</u>	
		Number	Percent	Number	Percent
All respon- dents	505	475	94.1	30	5.9
All partici- pants	440	419	95.2	21	4.8
Dropouts & non-renews	65	56	86.2	9	13.9
Non-urban fringe participants	381	361	94.8	20	5.3
Urban fringe participants	82	81	98.8	1	1.2

The average number of new hunters served by "all respondents" (23.5) is shown in Table 9. Multiplying this figure by the total number of participants and dropouts (609) gives a total of 14,312 first time hunter visits. This data could be affected by both recall problems and self evaluation bias. While recall problems would probably have no consistent bias associated with them, self evaluation bias would probably inflate estimates of numbers of new hunters.

Respondents were also asked for estimates of the number of new hunters who came back at least once. Roughly half of the new hunters did so. The same biases which could have affected "average number of new hunters" data could influence

the above results. Since no question on the number of new hunter return visits was asked, estimates of the total number of new hunter visits on PAS land cannot be made.

TABLE 9

NUMBER OF HUNTERS WHO HUNTED ON RESPONDENTS' PROPERTIES DURING THE 1978-79 HUNTING SEASON WHO HAD NOT HUNTED ON THEM IN PREVIOUS YEARS, BY SUBGROUP

Subgroup	Number of Responses	Mean Number	Median* Number
All respondents	453	23.5	12.4
All participants	395	23.3	14.0
Dropouts & non-renews	58	25.1	10.5
Non-urban fringe participants	345	21.1	12.3
Urban fringe participants	67	32.0	14.9

\*Half of the respondents had fewer than this number of new hunters and half had more.

In order to discover how hunting use was distributed over time, three periods were formulated reflecting early, peak, and late season hunting opportunities. Results, displayed in Table 10 show that approximately 80% of hunting use on program lands occurred between October 20th and March 1st. Only about 20% of hunting use occurred between



TABLE 10

## PERCENT OF HUNTING USE BY PERIOD

Subgroup	Number of Responses	Sept. 15 to Oct. 19 <sup>3</sup> Mean Mode <sup>1</sup> Median <sup>2</sup>	Oct. 20 to Nov. 14 <sup>4</sup> Mean Mode <sup>1</sup> Median <sup>2</sup>	Nov. 15 to March 15 Mean Mode <sup>1</sup> Median <sup>2</sup>
All respondents	430	19.39 10.0 15.8	40.69 50.0 39.68	39.66 50.0 39.77

<sup>1</sup> Most frequently listed percent of use

<sup>2</sup> Half of the respondents had more than this percentage of use in a given period and half had more.

<sup>3</sup> During this period, it is legal to hunt squirrels and deer with bow and arrow in southern Michigan. It might be called the early season.

<sup>4</sup> During this period, most game species are in season including: pheasant, deer (both bow and shotgun), rabbit, squirrel, grouse and woodcock. It might be called peak season.

<sup>5</sup> During this period, few game species are available for hunting. Bow and arrow deer and rabbits would be the prime targets in this late season.

September 15th and October 19th. While recall problems could affect the accuracy of this data, the popularity of PAS program lands during the late season (November 15 - March 1) is still noteworthy.

### Hunter Relations

Respondents' perceptions of the quality of their relations with hunters are another important parameter of the landowner/hunter interface. Responses to a question on hunter relations prior to PAS participation reflect an attitude similar to that shown by responses to the question asking who was allowed to hunt on participants' lands. More than 65% of the respondents in all subgroups reported good or excellent hunter relations. Further, as shown in Table 11, only 10.3% of all respondents felt their relations with hunters had been poor or very poor prior to participation. The subgroup with the lowest percentage (5.6%) of poor or very poor hunter relations was "dropouts and non-renews".

Not only were respondents' relations with hunters generally good before participation, but their attitude towards hunting itself proved largely positive. Table 12 breaks down attitude towards hunting into three categories. The categories are: generally disapprove, support hunting of all legal species, and support hunting, but not of all legal species. Roughly 79% of the "non-urban fringe participants" and 75/6% of "urban fringe participants" subgroups support hunting of all legal species. However, only 60.3%

TABLE 11  
RESPONDENTS RELATIONS WITH  
HUNTERS BEFORE PAS PARTICIPATION\*

Subgroup	Number of Responses	Excellent Percent	Good Percent	OK Percent	Poor Percent	Very Poor Percent
All respondents	507	26.6	40.4	22.7	8.7	1.6
All participants	435	26.0	40.0	23.0	9.4	1.6
Dropouts & non-renews	72	30.6	43.1	20.8	4.2	1.4
Non-urban fringe participants	377	26.3	38.7	23.3	9.8	1.9
Urban fringe participants	81	21.0	45.7	25.9	6.2	1.2

\*Percent totals may not equal 100 due to rounding.

TABLE 12

## RESPONDENTS' ATTITUDE TOWARDS HUNTING BY SUBGROUP

Subgroup	Number of Responses	Generally Disapprove of Hunting		Support Hunting all Legal Species		Support Hunting but not of all Legal species	
		Number	Percent	Number	Percent	Number	Percent
All respondents	513	27	5.3	388	75.6	98	19.1
All participants	440	17	3.9	344	78.2	79	18.0
Dropouts & non-renews	73	10	13.7	44	60.3	19	26.0
Non-urban fringe participants	381	16	4.2	300	78.7	65	17.1
Urban fringe participants	82	3	3.7	62	75.6	17	20.7

of the "dropouts and non-renews" subgroup does so, and 13.7% of this subgroup generally disapprove of hunting. "Dropouts and non-renews" are evidently much less likely to unreservedly support hunting than those who continue to participate in the program.

Table 13 summarizes response to a question on whether or not respondents experienced any significant problems with hunters. Sixty-six percent of the "dropouts and non-renews" indicated that they had experienced such problems. This is nearly double the percent reported by participants who plan to remain in the program. The high percent of "dropouts and non-renews" reporting problems with hunters combined with a tendency to be less receptive to hunting (see Table 12) probably helps to account for their decision to discontinue participation. However, these results contrast with these landowners' description of their relations with hunters prior to participation (see Table 10) in which they indicated generally better hunter relations than the other subgroups.

As a follow-up to the question on whether or not they had any significant problems with hunters, those respondents who answered "yes" were asked to indicate the nature of the problem they considered most important. The problems reported included: property damage, trespass, litter, personal injury, and "other". Space was provided beside "other" for the respondent's particular problem to be written in. Separate columns were provided so that the respondent could

TABLE 13

RESPONSES BY SUBGROUP ON WHETHER OR NOT RESPONDENTS  
FELT THEY HAD SIGNIFICANT PROBLEMS WITH HUNTERS

Subgroup	Number of Responses	Yes		No	
		Number	Percent	Number	Percent
All respon- dents	497	195	39.2	302	60.8
All partici- pants	427	149	34.9	278	65.1
Dropouts & Non-renews	70	46	65.7	24	34.3
Non-urban fringe participants	371	131	35.3	240	64.7
Urban fringe participants	79	25	31.7	54	68.4

indicate whether the problem was experienced before PAS participation, after, or both. It should be remembered when using Table 14 and 15 that only about 1/3 of "non-urban" and "urban fringe participants" felt they had significant problems with hunters.

Table 14 pairs the before and after percents for each problem category. In the case of property damage, trespass, and litter, responses for all subgroups indicate a decrease in problem incidence following participation in the PAS program. In the case of personal injury, problem incidence after participation drops to 0%. "Other" is comprised of a wide variety of responses including driving over fields,

fence or gate damage, game violations, etc., none of which was supplied by more than 12 respondents. It generally decreased by only a small amount after participation and in the case of "dropouts and non-renews" increased somewhat. Since, with the exception one problem type for one group of respondents, problems with hunters were less following joining the PAS program, it appears that participation in PAS has reduced hunter related problems.

A word of caution must be interjected on the interpretation of these results because of their relative time frames. Hunter problems experienced in the past could have occurred as long ago as the respondent could remember. However, problems experienced during PAS participation could only have occurred in the last one or two years.

In order to better identify the specific problem landowners felt was the worst, respondents were asked to describe their biggest problem with hunters. As in the case of the question on what problems were significant, only those who indicated that they had significant problems were asked to respond. The results are displayed in Table 15. Trespass, cited by 43.3% of "all respondents", ranks as by far the biggest problem for all subgroups except "urban fringe participants". Only 30.4% of this subgroup consider trespass to be one of their biggest problems while 34.8% consider fence and gate damage to be significant. The category "other bad behavior" is comprised of trespass on neighbors property, hunting in the wrong place, game violations and other problems.





TABLE 14 (cont)

Problem	<u>Subgroups</u>				Percent indicating problem	
	All Respondents N=209	All Participants N=162	Dropouts and Non-renewals N=46	Non-urban Fringe Participants N=131	Urban Fringe Participants N=27	
Personal Injury						
Percent Before	2.4	1.9	4.4	2.3	0	
Percent After	0	0	0	0	0	
Other						
Percent Before	23.0	25.0	15.2	27.5	22.2	
Percent After	21.0	19.8	21.7	22.1	14.8	

\*Percents will not equal 100 because multiple responses were coded

TABLE 15

BIGGEST PROBLEMS OF RESPONDENTS WHO FELT THEY HAD  
SIGNIFICANT PROBLEMS WITH HUNTERS, BY SUBGROUP\*

Problem	Subgroups				Percent indicating problem
	All Respondents N=180	All Participants N=139	Dropouts & Non-renews N=41	Non-urban Fringe Participants N=123	Urban Fringe Participants N=23
Trespass	43.3	42.5	46.3	43.1	30.4
Too Many Hunters	4.4	3.6	7.3	3.3	4.4
Litter	12.2	12.2	12.2	13.0	13.0
Fence and Gate Damage	15.0	13.7	19.5	11.4	34.8
Other Types of Damage	8.9	7.9	12.2	8.1	8.7
Carless Shooting	15.0	14.0	19.5	13.8	8.7
Driving Over Fields and Crops	8.9	10.8	2.4	11.4	4.4
Other Bad Behavior	19.4	21.6	12.2	20.3	26.1

\*Numbers represent percentages of respondents reporting that this problem type is significant.

Although this "other" general class of problems was frequently selected by respondents, no one specific problem was mentioned by more than seven respondents.

Even respondents who did not feel they had significant hunter problems might feel they had some problems. Because of this and to establish a rank ordering of hunter problem importance, those receiving the questionnaire were asked to select the most important problem from each of six pairs of problems. The problems selected for ranking were: damage, trespass, litter, and overcrowding. These four problems were selected for ranking because previous research indicated them to be significant. In the event that the respondent felt the problems were of equal importance, he or she was asked to so indicate. Each time only one problem was checked in a pair, it received 1 point. When both problems in a pair were checked they each received .5 point. The four problems could receive a possible score of from 0 to 3 (0, .5, 1, 1.5, 2, 2.5, 3). The scoring process was carried out by computer for each questionnaire, scores were tabulated. These results were then averaged for each problem. The mean scores are displayed in Table 16. The higher the score, the more important the problem.

Litter received the highest score for all respondent groupings, and overcrowding received the lowest ranking for all groups of respondents. The differences between problem scores are generally not large, ranging from 0.0 to .73 on a scale of 0.0 to 3.0. However, "urban fringe participants"

TABLE 16

## RESPONDENTS' RANKING OF POTENTIAL PROBLEMS BY SUBGROUP\*

Subgroup	Number of Responses	<u>Damage</u> Mean Score	<u>Trespass</u> Mean Score	<u>Litter</u> Mean Score	<u>Overcrowding</u> Mean Score
All respondents	522	1.42	1.18	1.45	.91
All participants	446	1.44	1.15	1.46	.91
Dropouts & non-renews	76	1.30	1.34	1.38	.97
Non-urban fringe participants	387	1.40	1.15	1.46	.93
Urban fringe participants	83	1.45	1.11	1.48	.75

\*Problems were paired and respondents asked to check the more important of the two, or both if they were equally important. One point was awarded to the checked problem and half a point to each if both were checked. Possible scores range from "0" to "3". Overall average score is less than 1.5 because all blanks were included in the scoring as "0".

rated both damage and litter higher than any other subgroup by a small margin and ranked overcrowding below any other subgroup by a somewhat larger margin. This subgroup gave both damage (1.45) and litter (1.48) a rating almost twice as high as they gave overcrowding (.75).

It is difficult to understand why trespass, which ranks so highly in other questions on problems has lower scores than litter and damage for most subgroups. Part of the difference arises because responses from all landowners regardless of whether or not they have any significant problems were included in the results presented in Table 16. In order to assess differences in rankings between the 195 respondents who reported significant problems with hunters and the 302 who reported no significant problems, the two groupings were analyzed separately. As shown in Table 17, these groups have different perceptions of the relative importance of trespass, and litter.

It seems likely that a high percentage of respondents who reported no significant problems with hunters have trespass problems but do not consider them serious. Some of these respondents may even have as many, or more trespasses than those reporting significant problems. A comparison of the data in Tables 16 and 17 suggests that landowners attitude towards trespass, rather than the frequency with which they experience it, may be a key factor influencing responses tabulated in Tables 13, 14, and 15.

TABLE 17

CROSSTABULATION OF MEAN SCORE FOR PROBLEMS BY  
WHETHER OR NOT RESPONDENT HAD SIGNIFICANT  
PROBLEMS WITH HUNTERS

Problems	Significant Problems	
	Yes (n=195)	No (n=302)
Damage Mean Score	1.43	1.43
Trespass Mean Score	1.60	.96
Litter Mean Score	1.31	1.54
Overcrowding Mean Score	.92	.91

After the questions on hunter relations and problems, respondents were asked if their relations with hunters had been the same, better or worse since they began participating in the PAS program. The responses are summarized in Table 18. Over 37% of the "non-urban fringe participants" and 25.9% of the "urban fringe participants" indicated that their relations with hunters were better. In contrast only 13.0% of the "dropouts and non-renews" felt that their relations were better, and 15.9% of them felt their relations had worsened. Only about 1% of "urban fringe participants" felt that hunter relations had become worse. Respondents who had characterized prior hunter relations as very poor or poor accounted for 61.5% of the improvement in relations. More than 80% of "all respondents" in the very poor and poor categories before program participation felt their relations were better. No respondents in the very

TABLE 18

CHANGE IN RESPONDENTS' RELATIONS WITH  
HUNTERS AFTER PROGRAM PARTICIPATION, BY SUBGROUP\*

Subgroup	Number of Responses	Better		Same		Worse	
		Number	Percent	Number	Percent	Number	Percent
All respondents	507	164	32.3	321	63.3	22	4.3
All participants	438	155	35.4	272	62.1	11	2.5
Dropouts & non-renews	69	9	13.0	49	71.0	11	15.9
Non-urban fringe partici- pants	380	141	37.1	229	60.3	10	2.6
Urban fringe participants	81	31	25.9	59	72.8	1	1.2

\*Percent may not add up to 100 due to rounding.

poor to poor categories felt the program worsened their relations with hunters. Only 4.7% of "all respondents" in the O.K. to excellent categories felt that relations had worsened.

Summary: Hunting and Hunter Relations

To summarize, before program participation most respondents (77.55%) allowed public hunting on their land and only 34.9% of all participants felt they had significant problems with hunters before or after program participation. However 65.7% of the dropouts and those not intending to renew their lease felt they had such problems.

Most respondents (67.0%) reported good or excellent relations with hunters prior to program participation. In addition, 75.6% of the respondents support hunting of all species. Of the "dropouts and non-renews" subgroup, however, only 60.3% support hunting of all species and 13.7% of this group generally disapprove of hunting.

For those who felt they had significant problems with hunters, trespass was by far the most frequently cited problem (78.5%) of all respondents. It was followed by litter (54.1%) and property damage (37.3%). When respondents were asked to specify their biggest problem, trespass was again the leader by a wide margin (43.3% over all), except among the "urban fringe participants" who rated it below property damage (30.4% and 43.5% respectively). When potential problems were ranked by both landowners who did and did not have significant problems however, damage and litter scored above trespass for all groups except the "dropouts and



non-renews".

For over half (63.3%) of the respondents program participation left relations with hunters unchanged. When relations did change 32.3% of all respondents reported that they improved, while less than 5% felt they had worsened. Among "dropouts and non-renews" only 13% reported improved relations and 15.9% reported worsened relations.

#### Program Participation

A question on whether neighbors commented to the respondent on his or her participation in the program and what these comments were was included in the questionnaire to give some indication of program impact on adjacent landowners. Table 19 shows the breakdown of responses to the first question. Both the data in Table 19 and in Table 20 could be affected by self-evaluation bias and recall problems.

TABLE 19

RESPONSES BY SUBGROUP ON WHETHER OR NOT  
PARTICIPANT'S NEIGHBOR COMMENTED ON HIS PAS PARTICIPATION\*

Subgroup	Number of Responses	Yes		No	
		Number	Percent	Number	Percent
All respondents	513	130	25.3	383	74.7
All participants	440	100	22.7	340	77.3
Dropouts & Non-renews	73	30	41.1	43	58.9
Non-urban fringe participants	383	88	23.0	295	77.0
Urban fringe participants	80	17	21.3	63	78.8

\*Percents may not add up to 100 due to rounding.

Except among "dropouts and non-renews" only about 25% of respondents indicated that one or more neighbors had commented on their participation. Of the "dropouts & non-renews" subgroup 41.4% stated that they had received a comment of some kind. As Table 20 shows, 38.3% of neighbor comments were positive or neutral for the "all participants" subgroup and 61.7% were negative. "Dropouts & non-renews" reported 17.9% positive or neutral comments and 82.1% negative comments. This means that approximately 1/3 (30.3%) of the "dropouts and non-renews" subgroup received negative comments from neighbors about the program or program participation, while only 12.6% of the "all participants" subgroup received negative comments.

Table 21 summarizes response to a question which asked respondents what they liked best about the program. Money and control<sup>5</sup> were the best liked and were rated about equally for most subgroups. They were selected by roughly 30% to 40% of those responding in each subgroup. However, in the "urban fringe participants" subgroup money (31.8%) and control (43.5%) differed by almost 12%. The ability to provide hunting opportunities was one of the best liked program features for approximately 15.0% of the "urban fringe

---

<sup>5</sup> "Control" includes permission requirements; limits on hunter numbers; know who, how many, when and where hunters were; hunter sign in; and control responses.

TABLE 20

## BREAKDOWN OF NEIGHBOR COMMENTS ON PROGRAM PARTICIPATION BY SUBGROUP

Subgroup	Number Responding	Percent of Subgroup Responding	Positive and Neutral Comments	Negative Comments
			Percent	Percent
All respondents	122	23.4	33.6	66.4
All participants	94	21.1	38.3	61.7
Dropouts & non-renews	28	36.8	17.9	82.1
Non-urban fringe participants	72	18.6	43.1	56.9
Urban fringe participants	16	19.3	50.0	50.0

TABLE 21

## PROGRAM FEATURES WHICH RESPONDENTS LIKE BEST, BY SUBGROUP\*

What was liked best	<u>SUBGROUPS</u>				% selecting option
	All Respondents N=446	All Participants N=389	Dropouts and Non-renews N=57	Non-urban Fringe Participants N=338	Urban fringe Participants N=66
Money	40.8	42.2	31.6	44.4	31.8
Control	42.4	44.2	29.8	42.9	43.5
Social Reasons	4.3	4.9	0	5.0	4.6
Provide Hunting Opportunities	9.9	9.0	15.8	8.0	15.2
Better Relations or Better Class Hunters	7.9	8.5	3.5	7.4	13.6
Nothing	2.9	.5	19.3	.6	0

\*Percents will not equal 100 because multiple responses were coded.

participants" and "dropouts & non-renews" subgroups. A relatively high percentage (13.6%) of the "urban fringe participants" subgroup also indicated better relations or better class hunters as a best liked feature. While about a fifth (19.3%) of those in "dropouts & non-renews" subgroup responding to this question reported "nothing" indicating they found nothing good about the PAS program.

In addition to being asked what they liked best, respondents were asked what they liked least about the program. The results are displayed in Table 22. Except in the case of the "dropouts and non-renews" subgroup, a considerably smaller proportion of each subgroup responded to this question than answered the question about what was liked best about the program. Because the response rate for this question was especially low, information on the percent of each subgroup which responded to it is included in Table 22. Hunter problems (24.5%) and too little money (20.3%) are the most frequently cited dislikes for "all respondents". However there was considerable variation among subgroups with hunter problems ranging from 38.7% for "dropouts & non-renews" to 21.2% of "non-urban fringe participants", and too little money ranging from 26.5% for "dropouts & non-renews" to 13.5% for "urban fringe participants".

From 6.1% for "dropouts & non-renews" to 21.2% for non-urban fringe participants" gave "nothing" as their response to this question. Only 58.4% of the "dropouts & non-renews",

TABLE 22

## WHAT RESPONDENTS LIKE LEAST ABOUT THE PAS PROGRAM

Subgroup	Number of Respondents	Percent of Subgroup Responding	Too Little		Hunter Problems Percent	Tags and Paperwork Percent		Signs Percent	Don't Know & Nothing Other Percent	
			Percent Responding	Money Percent						
All respondents	300	58.4	58.4	20.3	24.5	15.1	16.0	17.1	22.7	
All participants	256	57.4	57.4	19.1	22.1	15.7	17.8	19.1	22.3	
Dropouts & non-renews	49	64.5	64.5	26.5	38.7	12.2	12.2	6.1	30.5	
Non-urban fringe participants	227	58.7	58.7	19.8	21.2	14.5	15.9	21.2	22.1	
Urban fringe participants	37	44.6	44.6	13.5	27.0	21.6	24.3	10.8	21.6	

\*Percent will not equal 100 because multiple responses were coded.

37.5% of "non-urban fringe participants", and 33.8% of the "urban fringe participants" subgroups gave a response other than "nothing".

Despite the low percentage of responses to the question on what was liked least, another question asking respondents to indicate whether they felt each of several suggested improvements was important or unimportant received a high response rate. Table 23 lists the suggestions and shows the percentage of each subgroup selecting them as being important. Free court representation and increased per acre fees were considered to be important most often, with approximately 75% of each subgroup selecting them. Free property damage insurance followed closely, with from 64.4% for "urban fringe participants" to 72.3% for "dropouts and non-renews" indicating that they felt it was important. Increased enforcement patrols and free habitat improvement received considerably less support with approximately 40% of each subgroup checking them as important.

In order to further clarify the relative importance of each improvement suggestion, respondents were asked to rank the three suggestions they considered most important. Each time a suggestion was ranked first it was awarded 3 points; and each time it was ranked third it received 1 point. If a suggestion was not ranked at all, it received 0 points. The average point score for each suggestion is displayed in Table 24.

TABLE 23

POSSIBLE CHANGES IN PAS PROGRAM  
WHICH RESPONDENTS CONSIDERED IMPORTANT\*

Subgroup	Number of Responses	Increased Enforcement		Free Habitat Improvement		Free Court Representation		Free Property Damage Insurance		Increased Per Acre Fees	
		Patrols Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
All respondents	471	40.1	40.8	40.8	77.5	68.2	75.4				
All participants	406	38.4	40.4	40.4	77.3	67.5	75.9				
Dropouts & non-renews	64	50.8	43.1	43.1	78.5	72.3	72.3				
Non-urban fringe participants	352	38.1	40.3	40.3	77.8	68.2	75.9				
Urban fringe participants	73	43.8	39.7	39.7	74.0	64.4	78.1				

\*Percents will not equal 100 because multiple responses were coded.



TABLE 24  
AVERAGE RANKS FOR IMPROVEMENT SUGGESTIONS\*

Subgroup	Increased Enforcement Patrols	Free Habitat Improvement	Free Court Representation	Free Property damage Insurance	Increased Per acre Fees
All respondents	.69	.58	1.50	1.13	1.54
All participants	.64	.60	1.53	1.11	1.54
Dropouts & non-renews	.96	.46	1.36	1.29	1.55
Non-urban fringe participants	.64	.57	1.54	1.10	1.54
Urban fringe participants	.61	.74	1.40	1.23	1.65

\*Respondents were asked to rank items they considered important "first" "second" or "third" most important. Three points were awarded for a "first", two points for a "second", and "one" point for a third. Items which were not ranked were awarded zero points.

The results of the ranking procedure generally substantiate impressions likely to be gained from Table 23. Increased per acre fees and free court representation rank highest. Next comes free property damage insurance followed by increased enforcement patrols and finally free habitat improvement.

As a double check on the improvements questions respondents were asked in an earlier question whether or not they thought the program could be improved. If they responded positively they were asked how it could be improved. Table 25 summarizes responses to this question. Response rate to this question was low. This should be kept in mind when reading the table. While money was still the improvement of choice (31.8% for "all respondents") for all groups, better boundary signs (10.7% for all respondents) and better program information distribution to hunters, participants, and landowners in general (16.6% for "all respondents") received significant amounts of support.

Table 26 shows the percentage of each subgroup willing to participate in the PAS program without remuneration. In view of the high interest in increased fees, it is not surprising that the percent of respondents willing to participate in the program without fees is very low. "Dropouts and non-renews" are the least willing to participate for free (5.9%) and "urban fringe participants" the most willing (13.9%). There is a strong probability that self-evaluation bias has had a downward effect on the percent of respondents

TABLE 25

## RESPONDENTS' FIVE MOST FREQUENT IMPROVEMENT SUGGESTIONS

Subgroup	Number of Responses	Percent of					Stock Game	More Enforcement	Better Information
		Subgroup Responding	More Money	Improve Signs					
All respondents	252	48.3	31.8	10.7	6.4	9.1	16.6		
All participants	210	47.1	31.4	11.0	7.1	9.1	13.3		
Dropouts & non-renews	42	55.3	33.3	9.5	2.4	9.5	7.1		
Non-urban fringe participants	182	47.0	33.5	11.5	7.1	7.7	18.7		
Urban fringe participants	33	39.8	18.2	6.1	6.1	15.1	15.1		

TABLE 26

RESPONSES BY SUBGROUP ON WHETHER OR NOT PARTICIPANTS  
WOULD BE WILLING TO PARTICIPATE IN PAS PROGRAM WITHOUT REMUNERATION\*

Subgroup	Number of Responses	Yes		No		Don't Know	
		Number	Percent	Number	Percent	Number	Percent
All respondents	496	60	12.1	424	85.5	12	2.4
All participants	428	56	13.1	360	84.1	12	2.8
Dropouts & non-renews	68	4	5.9	64	94.1	0	0.0
Non-urban fringe participants	371	48	12.9	312	84.1	11	3.0
Urban fringe participants	79	11	13.9	66	83.5	2	2.5

\*Percents may not add up to 100 due to rounding.

who express a willingness to participate for free.

Respondents were asked if they intend to renew their PAS program lease when it expired. Ninety percent of "all respondents" subgroup indicated that they would renew their lease, 5.6% did not know and only 4.3% stated that they would not renew.

Dropout and non-renewal rates were cross tabulated by urban fringe status in order to discover if the "non-urban fringe" and "urban fringe" subgroups differed. Results, shown in Table 27, indicate that there is little difference between the two groups in terms of dropout and non-renewal rates. What differences there are suggest that "non-urban fringe participants" are slightly more likely to drop out or fail to renew their lease.

Respondents who had dropped out were asked why they had done so in an open ended question. Fifty-five (96.5%) of the dropouts responded. Not enough money and too many hunters tied for the most frequently cited reason with each being mentioned by 16% of those responding. The second most common reason given was sold, leased or rented land which was listed by 13% of the respondents. A complete breakdown of responses can be found in Table 28.

Respondents were also asked why they intended or did not intend to renew their lease. Reasons for renewal, which were largely a reiteration of what respondents liked best about the program, are summarized in Table 29. Money was mentioned by 45.5% of "all participants". Control features

TABLE 27

CROSS TABULATION OF RESPONDENTS WHO HAVE DROPPED OUT OF THE PAS PROGRAM  
OR WHO DO NOT INTEND TO RENEW THEIR LEASE BY URBAN FRINGE STATUS

Subgroup	Number of Responses	Have Dropped Out		Will Not Renew Lease	
		Number	Percent	Number	Percent
All respondents	479	54	11.27	19	3.97
Non-urban fringe respondents	411	47	11.44	17	4.67
Urban fringe respondents	68	7	10.29	2	2.94

TABLE 28  
WHY DROPOUTS DISCONTINUED PARTICIPATION

Reason N-55	Number	Percent*
Program Associated	27	49
Not enough money	9	16
Don't like program or it's too much trouble	4	7
Loss of Control	4	7
No one to issue tags	4	7
Posting signs	3	5
Issuing tags	3	5
Hunter Associated	22	40
Too many hunters	9	16
Detroit and South Michigan hunters	4	7
Misuse of land	3	5
Trespass	3	5
Upset with hunters	3	5
Sold, leased or rented land	6	13
Other	17	30

\*Percents will not equal 100 because multiple responses were coded.

TABLE 29

## REASONS GIVEN FOR RENEWING PAS PROGRAM LEASE, BY PARTICIPANT SUBGROUP\*

Reason	All Participants N=380	SUBGROUPS	
		Non-urban Fringe Participants N=328	Urban Fringe Participants N=71
		Percent indicating reason	
Money	45.5	45.4	46.5
Control	23.2	24.4	18.3
Better Quality hunters or better relations	8.2	8.2	7.0
Other program benefits	3.2	3.1	4.2
Like program	13.2	13.7	9.9
No problems	4.0	3.7	5.6
Allow hunting anyway	5.8	4.3	11.3
Can't keep hunters out	3.4	4.0	5.6
Provide hunting opportunities	12.9	13.4	9.9
Makes hunters happy	2.6	2.4	2.8
Game control	2.9	2.7	2.8
Other	7.9	6.4	12.7

\*Percents will not equal 100 because multiple responses were coded.



of the program also accounted for a relatively high percentage of renewals (23.2%) as did provide hunting opportunities (12.9%). Better relations or better class hunters were cited as reasons for renewal by 8.2% of the "all participants" subgroup. Differences between the "non-urban" and "urban fringe participants" subgroups tended to be small, exceeding 5% in only three instances. Respondents who did not intend to renew their lease accounted for only 19 (3.6%) of the returned questionnaires. Insufficient monetary compensation was cited by 9 (47.4%) of respondents as the reason for not renewing their lease. No other response was given by more than 2 respondents. Additionally, the responses given resist meaningful grouping. Table 30 displays a breakdown of reasons respondents do not intend to renew their lease.

#### Summary: Program Participation

In summation, few neighbors made any comment on the program, 25.3% for all respondents, but when comments were made, they were negative 66.4% of the time. Among the 41.1% of "dropouts and non-renews" who received comments, 82.1% were negative.

Over 40% of all respondents felt control (42.4%) or money (40.8%) was the best program feature. Again "dropouts and non-renews" were different, with preference for each of these two program benefits falling to about 30%. Participants with land on the urban fringe also rated money as the best liked feature in about 30% of cases. Again in common with

TABLE 30  
REASONS GIVEN FOR NOT  
RENEWING PAS PROGRAM LEASE

Reason N=19	Number	Percent
Insufficient money	9	47.4
Too many strangers	1	5.3
Too many hunters	2	10.5
Risk of damage	1	5.3
Hunter misconduct	2	10.5
Overkill of game	1	5.3
Too much trouble	1	5.3
Phone calls at all hours	1	5.3
Takes too much time	1	5.3
Too many controls	1	5.3
DNR's decision	1	5.3
Too old or sick	1	5.3
Renting, rented	1	5.3
Don't know	1	5.3

\*Percent will total more than 100 because multiple responses were coded.

"dropouts and non-renews" they considered providing hunting opportunities best.

About one-quarter (24.5%) of all participants responding to the question on what they liked least about the program consider hunter problems to be the least liked characteristic. An even larger percentage (38.7%) of "dropouts & non-renews" felt this to be the case. Also disliked by a large percentage (19.1%) of those participants responding to this question are the low per acre fees. An even greater percentage (26.5%) of those who had left or intend to leave the program dislike them. However, even of the low percentage (58.4%) of those responding to this question 17.1% either didn't know what they disliked or they disliked nothing in particular about the PAS program.

Increased per acre fees (75.1%) and free court representation (77.5%) were the most preferred of a list of possible program changes for all respondents. When asked to suggest their own improvements "more money" (31.8%) came in first for all respondents by a wide margin. Approximately 17% of all respondents suggested better information as a needed improvement. Among urban fringe participants, better enforcement also received a large response (15.1%).

Not surprisingly, 88.5% of all respondents stated that they would not participate in the program for free. Among "dropouts and non-renews" this figure rose to 94.1%.

Approximately 90% of all respondents plan to renew their lease, 6% don't know, and only about 4% are not planning to

renew. Of those not intending to renew their lease, almost half (47.4%) cited low per acre fees as a reason. No other single reason was specified by more than 10.5% of respondents in this group.

Among those who do intend to renew their lease, money was mentioned as a reason by 45.5%. Control features of the program were indicated by 23.2% of respondents and "providing hunting opportunities" was a reason to continue for 12.9%. Thirteen percent stated that they were continuing simply because they liked the PAS program.

## CHAPTER V

### DISCUSSION OF SUBGROUPS

Because of the large amount of data and high number of variables examined in the analysis chapter, this section has been included to clarify and emphasize the findings on the two basic subgroup dichotomies.

The two dichotomies are: "dropouts and non-renews"/"all participants" and "non-urban fringe participants"/"urban fringe participants". While comparisons among all, or between any two, subgroups could be made, the above pairs are believed to be most important. The first pair of subgroups provides information on who drops out of the PAS program and why and the second pair may provide data allowing the DNR to segment the landowner market into urban fringe and non-urban fringe landowners. As was stated previously, this segmentation could allow the DNR to recruit the higher proportion of urban fringe landowners it desires.

Results discussed in this chapter are found in Table 31. For exact statistics the reader should refer to the original tables in the analysis chapter.

TABLE 31  
COMPARISON OF SUBGROUP RESULTS

Subgroups	All Participants	Dropouts	Non-urban Fringe	Urban Fringe
Sex (% male)	92%	91%	93%	88%
Age (average)	57.6	55.8	56.5	58.3
Income above \$18,000	38%	40%	36%	44%
Median % Income from farming	20%	10%	20%	10%
Median Acreage	160 ac.	120 ac.	160 ac.	153 ac.
Organization Membership				
Farm Bureau	37%	42%	38%	26%
SCS	14%	18%	15%	11%
None	46%	44%	43%	64%
Primary Reason for Land				
Ownership				
Farming	39%	34%	40%	33%
Investment	13%	18%	12%	20%
Residence	25%	23%	24%	29%
Who Hunted Prior to PAS Participation				
No one	1%	3%	1%	2%
Paying Hunters	1%	1%	1%	3%
Friends and Relatives	21%	21%	21%	19%
Anyone with Permission	61%	64%	62%	59%
Anyone without Per- mission	17%	10%	16%	20%
New Hunters (average #)	23	25	21	32
Pre-program				
Hunter Relations				
Excellent	26%	31%	26%	21%
Good	40%	43%	39%	46%
OK	23%	21%	23%	26%
Poor	9%	4%	10%	6%
Very Poor	2%	1%	2%	1%
Attitude Towards Hunting				
Disapprove	4%	14%	4%	4%
Approve	78%	60%	78%	76%
Approve with Qualifi- cations	18%	26%	17%	21%
Significant Problems (% yes)	35%	66%	35%	32%

TABLE 31 (cont)

Subgroups	All Participants	Dropouts	Non-urban Fringe	Urban Fringe
Problems				
Damage				
Before	37%	39%	41%	41%
After	14%	20%	15%	18%
Trespass				
Before	77%	85%	86%	63%
After	39%	59%	43%	41%
Litter				
Before	51%	67%	56%	48%
After	21%	37%	22%	30%
Change in Relations				
Better	35%	13%	37%	26%
Same	67%	71%	60%	73%
Worse	3%	16%	3%	1%
Biggest Problem				
Trespass	43%	46%	43%	30%
Too Many Hunters	4%	7%	3%	4%
Litter	12%	12%	13%	13%
Fence and Gate				
Damage	14%	20%	11%	35%
Other Damage	8%	12%	8%	9%
Careless Shooting	14%	20%	14%	9%
Driving Over Fields	11%	2%	11%	4%
Other Bad Behavior	22%	12%	20%	26%
Problem Rank				
Damage	1.4	1.3	1.4	1.5
Trespass	1.2	1.3	1.2	1.1
Litter	1.5	1.4	1.5	1.5
Overcrowding	.9	1.0	.9	.8
Neighbor Comment				
Yes	23%	41%	23%	21%
No	77%	59%	77%	79%
Comments				
Positive and Neutral	38%	18%	43%	50%
Negative	62%	82%	57%	50%
Liked Best				
Money	42%	32%	44%	32%
Control	44%	30%	43%	44%
Social	5%	0%	5%	5%
Providing Hunting Opportunities	9%	16%	8%	15%

TABLE 31 (cont)

Subgroups	All Participants	Dropouts	Non-urban Fringe	Urban Fringe
Liked best (cont)				
Better Hunter Re- lations or Better Class Hunters	9%	4%	7%	14%
Nothing	1%	20%	1%	0%
Liked Least				
Too little money	19%	27%	20%	14%
Hunter Problems	22%	39%	21%	27%
Program Problems	34%	24%	30%	46%
Nothing	19%	6%	21%	11%
Other	22%	30%	22%	22%
Improvement Suggestions (%, score)				
Increased Enforcement Patrols	38% .6	51% 1.0	38% .6	44% .6
Free Habitat Improve- ment	40% .6	43% .5	40% .6	40% .7
Free Court Represen- tation	78% 1.5	79% 1.4	78% 1.5	74% 1.4
Damage Insurance	68% 1.1	72% 1.3	68% 1.1	64% 1.2
Increased Fees	75% 1.5	72% 1.6	76% 1.5	78% 1.7
Respondents Suggestions				
More money	31%	33%	34%	18%
Better signs	11%	10%	12%	6%
Stock Game	7%	2%	7%	6%
More Enforcement	15%	10%	8%	15%
Better Enforcement	13%	7%	19%	15%
Why Renew Lease				
Money			45%	47%
Control			24%	18%
Better Hunter Relations or Better Quality Hunters			8%	7%
Other Program Benefits			3%	4%
Like the program			14%	10%
No Problems			4%	6%
Allow Hunting Anyway			4%	11%
Can't Keep Hunters Out			4%	6%
Provide Hunting Opportunities			13%	10%
Makes Hunters Happy			2%	3%
Game Control			3%	3%
Other			6%	13%



"Dropouts and non-renews" and "all participants" subgroups

The "dropouts and non-renews" (dropouts) and "all participants" (participants) subgroups are predominantly male, have an average age slightly above 55, and live in three member households on the average. In terms of demographic characteristics there is little to separate them. With respect to annual income, participants and dropouts are also similar, approximately 60% of both groups having incomes below \$18,000 per year.

Differences begin to appear when their relationship with the land is examined. Participants own more land and depend more on farming for their incomes than do dropouts. Continuing this trend, a higher percentage of participants feel farming is their most important reason for land ownership, but a greater percentage of dropouts belong to agricultural organizations such as the Farm Bureau and SCS.

When data on hunting and hunter relations are examined, a much stronger dichotomization begins to emerge. While both participants and dropouts differ only slightly in regard to whom they allowed to hunt and in pre-program hunter relations, their attitudes toward hunting show strong differences. The percentage of dropouts who do not approve of hunting is over three times that for participants. Dropouts are also much more likely to disapprove of hunting some species, even though they otherwise approve of hunting.

These differences are reemphasized in responses to whether or not the landowners had significant problems with

hunters. Almost twice as high a percentage of dropouts report significant problems as participants. When respondents with significant problems were asked what problems they had, a considerably higher percentage of dropouts reported damage, trespass, and litter than did participants. These differences persisted during program participation. Although problems for both groups decreased after they began participating in the PAS program, dropouts averaged a 14% higher reported incidence for the three problems. Despite the decrease in problems during participation, dropouts are less than half as likely to report that the program improved their relations with hunters as participants. Dropouts are also more than four times as likely to report that the PAS program worsened hunter relations. Despite the above differences, these two groups generally differed only slightly in terms of which problems they considered most important.

Not only are the dropouts negative in their feelings about the program's effects on their relations with hunters, but two and a half times as high a percentage of them received negative neighbor comments than did participants. This probably reinforced their already negative attitude towards the program.

The dropouts' lack of enthusiasm for hunters and hunting relative to participants is further highlighted by what each group dislikes about the program. Almost twice as high a percentage of the dropouts cited hunter problems, such as trespass and rudeness, when asked what they liked least about the program. Participants, on the other hand, were considerably

more likely to cite program associated problems, such as the bother of issuing tags and poor sign quality. In addition, dropouts were much more likely to complain about low program fees than participants, and much less likely to respond that there was nothing to dislike about the PAS program.

Participants and dropouts also differed considerably in terms of what they liked about the program. While both groups indicated money and control more often than any other feature, a considerably higher percentage of participants indicated each. In conflict with other findings, a somewhat higher percentage of dropouts liked providing hunting opportunities than did participants. Still, a higher percentage of participants cited better hunter relations or better class hunters as a best liked feature.

Generally speaking, both groups expressed similar interest in a variety of suggested changes in the program. Participants, however, were less interested in increased enforcement patrols than dropouts.

In conclusion, while they are similar or differ only slightly in many respects, these two groups display major differences in their attitudes toward hunters and hunting. These differences, though not consistent for all relevant variables (hunter relations, attitude towards hunting, significant problems, etc.) give a strong indication that dropouts are not leaving the PAS program simply because of its faults. Rather, they seem to be discontinuing participation, at least in part, because of long-standing problems with hunters reinforced by a generally negative attitude

towards hunting. Participants, on the other hand, tend to like hunters and hunting, and as a result the PAS program, better than the dropouts.

"Urban fringe participants" and "non-urban fringe participants" subgroups

As in the case of the "all participants" and "dropouts and non-renews" subgroups the "urban fringe participants" (urban fringe) and "non-urban fringe participants" (non-urban fringe) subgroups have many similarities. Average age for both groups is between 55 and 60 and both groups are predominantly male. However, a somewhat higher percentage of urban fringe landowners have incomes above \$18,000 per year.

Also in similarity with the dropouts and participants subgroups, median percent of income from farming is considerably lower for one of these groups than it is for the other. Those on the urban fringe have a much lower median percent of income from farming than non-urban fringe participants. This difference is not however, associated with a large difference in median acreage.

In terms of organization membership, urban fringe participants are a great deal less likely to belong to any organizations than non-urban fringe participants. They are also considerably less likely to belong to the Farm Bureau, though percentages for SCS membership are not very different. Non-urban fringe participants are somewhat more likely to

cite farming as their primary ownership reason and somewhat less likely to cite investment or residence.

No strong differences ( $\leq 10\%$ ) are found in whom these two groups allowed to hunt prior to PAS participation. However, program participation brought 50% more new hunters to urban fringe landowners than to non-urban fringe landowners.

Pre-program hunter relations were largely similar for non-urban fringe and urban fringe participants, but non-urban fringe landowners had higher percentages at both extremes (excellent, and very poor). The similarity in hunter relations is repeated in these groups' attitudes towards hunting, with more than three quarters of each group supporting hunting of all legal species.

Only about one third of each of these groups report significant problems with hunters. When significant problems are present, higher percentages of non-urban fringe participants report trespass and litter before participation. However, during participation these percentages show at least a 50% drop for the non-urban fringe landowners. Urban fringe landowners generally report a smaller, but still significant drop. This situation is reflected in the change in hunter relations reported by each group. A much higher percentage of non-urban fringe participants report an improvement in relations than do urban fringe participants. Surprisingly a slightly higher percentage of non-urban fringe landowners also report worsened relations.

When respondents were asked to specify their biggest problem with hunters, these two subgroups gave generally similar responses. However, a much higher percentage of non-urban fringe participants cited trespass and three times as high a percentage of urban fringe participants cited fence and gate damage. Both groups gave similar ranks to a list of possible hunter problems, ranking litter and property damage highest.

About the same percent of each group received comments from neighboring landowners, with the percent of negative comments being somewhat higher for non-urban fringe participants.

In regard to what they like best and least about the program, urban-fringe participants are about twice as likely to cite providing hunting opportunities and better hunter relations or better class hunters but only three-fourths as likely to cite money as are non-urban fringe participants. Complaints about too little money are more likely to be from non-urban fringe participants. On the other hand, complaints about hunter associated and program associated problems are more likely to come from urban fringe participants. In addition, only half as high a percentage of urban fringe participants felt there was nothing to dislike about the program as non-urban fringe participants.

Generally, proposed changes received only slightly different amounts of interest from each group. Increased enforcement patrols received somewhat more interest from urban fringe than from non-urban fringe participants. Still, it

received the same rank score from both groups.

When respondents were asked to suggest their own changes, almost twice as high a percentage of non-urban fringe participants suggested more money than did urban fringe participants. However, this difference was not repeated in the section where respondents selected and ranked items from a list of possible improvements. In that case urban fringe participants ranked increased fees very slightly higher than non-urban fringe participants.

In the section in which respondents wrote in their own suggestions for improvements, about twice as high a percentage of non-urban fringe participants suggested better signs. This relationship was reversed for better enforcement, which was cited by a much higher percentage of urban fringe participants.

When asked why they were renewing their lease, responses for these two groups were quite similar. Close to half of each group state that money is the main reason. Control is cited more often by non-urban fringe participants, while the fact that they allow hunting anyway is cited by a higher percentage of urban fringe participants.

Non-urban fringe participants and urban fringe participants do not differ nearly as much as dropouts and participants do. In cases where they do differ, there seems to be insufficient consistency to isolate any trends. Key differences include urban fringe participants' lower median income from farming and lower farm organization membership. More

significant in terms of the PAS program are urban fringe participants higher number of new hunters coupled with a lower percentage of improved hunter relations and generally greater dissatisfaction the program than non-urban fringe participants.



## CHAPTER VI

### CONCLUSIONS AND RECOMMENDATIONS

This chapter is divided into three sections. The first section presents conclusions based on study results. The second is composed of recommendations for improvements to the PAS program. Possibilities for further research are discussed in the final section.

#### Conclusions

The program attracts landowners somewhat older than the average rural landowner. Participants own considerably more land on the average than rural landowners in general. Those who have dropped out or who do not intend to renew their lease approach Zone III averages for these two variables more closely than continuing participants.

Larger landowners are probably more prevalent among participants for two reasons. First, the DNR only accepts parcels over 40 acres in size in order to provide sufficiently large continuous hunting areas. Second, landowners with larger acreages are more likely to favor such a program (Parker, 1975) and larger acreages provide more significant amounts of income, thus encouraging program entrance and continued participation.

The fact that most participants both allowed hunting and had relatively good relations with hunters prior to participation probably indicates that landowners who are in favor

of public use of their land and already enjoy good relations with hunters are more willing to take the risk of entering a public access program. They are also more likely to view the income as profit since less change in their behavior is required by participation. Because the fees are quite low, \$.50 to \$2.50 per acre, the amount received is unlikely to overcome the unwillingness of those who do not allow hunting to allow it. Neither is it likely to be large enough to enlist those with poor hunter relations in a program which promises to bring more hunters to their land.

These remarks must be tempered in view of the fact that the dropouts and non-renews subgroup, which could be thought of as being on the margin between participants and non-participants enjoyed somewhat better relations with hunters prior to participation than did those who continue to participate. On the other hand, about 60% of "all participants" felt they had no significant hunter problems while only 34.3% of the "dropouts and non-renews" felt this to be the case.

Generally speaking, the program appears to have decreased significant problems with hunters by a considerable amount and improved landowners relations with hunters for a third of the respondents. This shows that the programs control features, and probably the hunter's assurance of acceptance, work to promote better hunter behavior and relations. The simple fact that hunters usually ask permission (possibly because they know it will be given) on program lands is probably a major factor in the improvement

of relations.

As far as can be judged from the study, impact on adjacent landowners is not common, but where it exists it is likely to be negative.

The finding that money does not rate above control as the best liked program feature probably reflects the low payment as well as the already mentioned positive program influence of improving landowner/hunter relations. As the study shows, however, poor hunter behavior is still a major problem for some participants, as well as being a common cause of participants dropping out or not renewing their lease. Low per acre fees are frequently cited as the least liked feature of the program and are the major reason for lease non-renewal as well as an important cause of program dropout.

Free court representation, increased per acre fees, and free property damage insurance head the list of improvement suggestions. This is not surprising considering the concern many landowners express about liability and property damage. Among improvements suggested by the respondents themselves, higher fees ranks first, while better information is second, and improved signs and more enforcement vie for third. Respondents feel the need for more hunter and landowner education about the program's responsibilities and benefits. The poor visibility and short life span of PAS program boundary signs is also in need of remedy. Finally, more enforcement patrols and closer contact between the DNR and

participant landowners is needed to control hunter violations of game laws and program rules.

Despite expressing some real dissatisfactions with the program most respondents feel the program has positive benefits for them.

### Recommendations

The results of this study have several implications for program improvements, they are:

1. The fee structure should be revised upward to compensate for inflation and to attract increased numbers of landowners both who do and do not currently allow public hunting.
2. Program information dissemination procedures should be broadened and strengthened to include:
  - a. information to the general population of Zone III landowners on PAS program control and improved hunter relation benefits. Routes of access include the Farm Bureau, Michigan Farmer, and area newspapers.
  - b. information to hunters on program benefits especially location of program parcels and on hunter responsibilities in terms of permission, courtesy and good hunting behavior. (Litter problems, a real concern of many landowners, can

best be addressed by hunters themselves).

3. Effort should be made to include additional liability protection beyond the waiver currently present in the enabling act.
4. The possibility of providing property damage insurance should be investigated.

#### Further Research

This study was originally intended to include a sample of non-participating landowners as well as current and former participants. Non-participant landowners were to be broken down into two groups, those with property adjacent to PAS properties and southern lower Michigan rural landowners in general. However, the familiar limitations of time and cost reduced the study to current and former participants.

Fortunately, Pat Lineback, also of the Park and Recreation Resources Department at Michigan State, has conducted a mail survey of landowners adjacent to PAS participants. Results of that study will soon be available. The study should provide information on positive and negative impacts of the PAS program on adjacent landowners. It may also serve as proxy for a general rural landowner study for some types of data. However, in areas where the program impacts adjacent landowners the data will not be useful for this purpose.

Because of these gaps, a study of the general population of southern lower Michigan rural landowners is strongly

recommended. Information is needed, both to compare non-participating rural landowners with participants and to investigate the availability of hunting opportunities on private land. Only by comparing the characteristics of non-participating landowners with PAS participants can the difference between the two groups be identified. Once these differences are discovered the DNR can concentrate its recruitment efforts on those landowners most likely to participate in the PAS program. A measure of the availability of southern lower Michigan hunting opportunities is required to assess the need for the PAS program as well as to measure its effectiveness in increasing hunting opportunities.

There are two additional groups which merit study, DNR Wildlife Division personnel and hunters. The attitudes and opinions of Wildlife Division staff are important in any effort to evaluate or improve the PAS program. Personnel see the program from a different perspective than landowners and can provide insight into program problems at two levels. The first level is internal to the DNR and involves bureaucratic processes. The second level is external, involving recruitment and retention of landowners in the program. Information is needed in both these areas.

Hunters are the target group of the PAS program. They must be sampled to find out who uses program lands, how often, and where and when this use occurs. Without this information the program cannot be accurately evaluated nor can necessary improvements relating to hunter use be identified.

In conclusion three major research areas remain to be investigated: Zone III rural landowners, Wildlife Division personnel, and Zone III hunters. Data from all of these groups are required to successfully evaluate or improve the PAS program.

## APPENDIX A



# APPENDIX A

## QUESTIONNAIRE

### PAS PARTICIPANT LANDOWNER QUESTIONNAIRE

1. What county do you live in? \_\_\_\_\_ County
2. Including yourself, how many family members live in your home? \_\_\_\_\_
3. How old are you? \_\_\_\_\_ Years
4. What is your sex? Male \_\_\_\_\_ Female \_\_\_\_\_
5. Is your household's annual income above or below the state median of \$18,000? Above \_\_\_\_\_ Below \_\_\_\_\_
6. How many acres of land do you own in SOUTHERN LOWER MICHIGAN? Southern lower Michigan is essentially the area of the southern Peninsula south of N-20. (See map below right) \_\_\_\_\_ Acres
7. Please list the parcels of land you own in southern lower Michigan by section, township and county and give their acreage. If you need more space, please list on a separate sheet of paper. PLEASE CIRCLE THE PARCEL YOU LIVE ON.

Section	Township	County	Acres



8. Do you belong to any of the organizations listed below? (Please check as many as apply. Be sure to check "M", the last item in the list, if none apply.)

- |  |   |
|--|---|
| A. Michigan United Conservation Club (MUCC).....                         | <div style="display: flex; align-items: center;"> <div style="border-left: 1px dashed black; height: 100px; margin-left: 10px;"></div> </div> |
| B. National Rifle Association (NRA).....                                 |   |
| C. Ducks Unlimited.....  |   |
| D. Trout Unlimited.....  |   |
| E. Local hunting or fishing club (please name).....                      |   |
| F. Sierra Club.....  |   |
| G. East or West Michigan Environmental Action Council.....               |   |
| H. Farm Bureau.....  |   |
| I. National Farmers Organization (NFO).....                              |   |
| J. Soil Conservation Society.....  |   |
| K. Grange.....   | <div style="display: flex; align-items: center;"> <div style="border-left: 1px dashed black; height: 100px; margin-left: 10px;"></div> </div> |
| L. Any other farming, conservation, or sporting organization please list |   |
| M. NONE.....   | ( )   |

9. Does anyone in your immediate family hunt? Yes \_\_\_\_\_ No \_\_\_\_\_ (IF NO, GO TO QUESTION 11)
10. Does anyone in your immediate family hunt on the land you have in the PAS Program? Yes \_\_\_\_\_ No \_\_\_\_\_
11. Which of the following statements best describes your attitude towards hunting?
 

A. Generally disapprove of hunting.....	_____
B. Support hunting of all legal species.....	_____
C. Generally support hunting but not of all legal species.....	_____
12. Is this attitude shared by all the other members of your household? Yes \_\_\_\_\_ No \_\_\_\_\_
13. Did any hunters hunt on your land this hunting season (1978-79) who have not hunted on it in past years?
 

Yes _____ Approximately how many? _____	No _____ (IF NO, GO TO QUESTION 15)
---	-------------------------------------
14. Did any of these hunters hunt more than one day on your land? Yes \_\_\_\_\_ Approximately how many? \_\_\_\_\_ No \_\_\_\_\_
15. Please estimate the percentage of total hunting use of your land which occurred during each period below: (SHOULD ADD UP TO 100%)

September 15 - October 19.....	_____ %
October 20 - November 14.....	_____ %
November 15 - March 1.....	_____ %
TOTAL	100 %

16. Have you had any significant problems with hunters in past years? Yes \_\_\_\_\_ No \_\_\_\_\_ (GO TO QUESTION 19)

17. What kinds of significant problems have you had with hunters in past years?

	Before you entered PAS Program	After you entered PAS Program
A. Property damage including injury to livestock.....	{ }	{ }
B. Trespass.....	{ }	{ }
C. Littering.....	{ }	{ }
D. Personal injury.....	{ }	{ }
E. None.....	{ }	{ }
F. Other.....	{ }	{ }

(Please fill in)

18. Please briefly describe the ONE most significant problem out of those you listed in Question 17.

---

19. The following section consists of six pairs of problems which may be important to you in regard to public use of your land. FROM EACH PAIR CHECK THE PROBLEM THAT IS MORE IMPORTANT TO YOU. Please check the more important item in each pair even if neither is very important to you. Check both if both are equally important to you.

A. 1. Damage to property..... { }  
 2. Trespass..... { }

B. 1. Damage to property..... { }  
 2. Littering..... { }

C. 1. Damage to property..... { }  
 2. Overcrowding..... { }

D. 1. Trespass..... { }  
 2. Littering..... { }

E. 1. Trespass..... { }  
 2. Overcrowding..... { }

F. 1. Littering..... { }  
 2. Overcrowding..... { }

Example:

Which do you dislike more?

A. 1. Headache..... { ✓ }  
 2. Sore throat..... { }

In "A" the person answering disliked headaches more than sore throats.

B. 1. Headache..... { ✓ }  
 2. Backache..... { ✓ }

In "B" the person answering disliked headaches and backaches equally.

20. How would you describe your relations with hunters BEFORE you entered the PAS Program?

A. Excellent..... { }      D. Poor..... { }  
 B. Good..... { }      E. Very poor..... { }  
 C. O.K..... { }

21. Which of these statements best described your relations with hunters who hunted on your land AFTER you entered PAS Program? (Please check only one of the following answers.)

A. My relations with hunters have been the same since I entered the PAS Program..... ( ) (IF YOU CHECKED "A", GO TO QUESTION 23)

B. My relations with hunters have been worse since I entered the PAS Program..... ( )

C. My relations with hunters have been better since I entered the PAS Program..... ( )

22. What caused your relations with hunters who hunted on your land to change?

---

23. Do you farm any land? Yes \_\_\_\_\_ No \_\_\_\_\_ (IF NO, GO TO QUESTION 26)

24. Do you farm any of the land you have in the PAS Program? Yes \_\_\_\_\_ No \_\_\_\_\_

25. During the last five years about what percentage of your total income came from farming? \_\_\_\_\_ %

26. What are your three most important sources of information on matters of importance to your land? (Radio shows, organizations, magazines, etc. Please give type of source and its name. For example: newspaper, Detroit Free Press)

A. \_\_\_\_\_  
 B. \_\_\_\_\_  
 C. \_\_\_\_\_

27. Did anyone from the DNR contact you to provide you with information on the PAS Program or to request your participation? Yes \_\_\_\_\_ No \_\_\_\_\_

28. How long has the land you have or had in the PAS Program been in your family? \_\_\_\_\_ Years

29. Are you or you and your spouse the sole owners of the property you have in the PAS Program?

Yes \_\_\_\_\_ No \_\_\_\_\_ If no, how many individuals other than you and your spouse share in the ownership of the land you have in the PAS Program? \_\_\_\_\_  
 How many other than you or your spouse share in decisions about the land you have in the PAS Program: \_\_\_\_\_

30. What is your most important reason for retaining ownership in the land YOU HAVE IN THE PAS PROGRAM? (PLEASE CHECK ONLY ONE.)

A. Farming..... ( )  
 B. Recreation..... ( )  
 C. Investment..... ( )  
 D. As a place to live..... ( )  
 E. Haven't been able to sell... ( )  
 F. Other (please specify) \_\_\_\_\_ ... ( )

31. Is all the land you own included in the PAS Program? Yes \_\_\_\_\_ (GO TO QUESTION 33) No \_\_\_\_\_

32. Why did you decide not to put it all in the program? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

33. Which of the following statements best describes how much of the year you live on or near the land you have in the PAS Program? (Please check only one.)

A. I do not live on the land that I have in the PAS Program..... ( )  
 B. I usually spend only weekends on the land I have in the PAS Program..... ( )  
 C. I live year round on the land I have in the PAS Program..... ( )  
 D. I live near but not on the land I have in the PAS Program..... ( )  
 E. I don't live there but I rent a residence on the property..... ( )  
 F. Other (please explain) \_\_\_\_\_

34. Which of the following statements best describes who you allowed to hunt on your land before you were in the PAS Program?

A. Close friends and relatives..... ( )  
 B. Anyone who asked permission..... ( )  
 C. Anyone whether they asked permission or not..... ( )  
 D. Hunting club members who leased land..... ( )  
 E. Hunters who paid a fee..... ( )

35. Have you dropped out of the PAS Program? Yes \_\_\_\_\_ No \_\_\_\_\_ (IF NO, GO TO QUESTION 37)

36. Why did you drop out? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

→ GO TO QUESTION 40

37. Do you plan to renew your lease with the DNR when it expires? Yes \_\_\_\_\_ No \_\_\_\_\_ (IF NO, GO TO QUESTION 39)

38. Why do you plan to continue? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

39. Why don't you plan to continue? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

40. Have your neighbors expressed any opinions about your participation in the PAS Program?

Yes \_\_\_\_\_ No \_\_\_\_\_ (IF NO, GO TO QUESTION 42)

41. How many have said what? \_\_\_\_\_

42. What do you like best about the PAS Program? \_\_\_\_\_

43. What do you like least about the PAS Program? \_\_\_\_\_

44. Do you think the PAS Program could be improved? Yes \_\_\_\_\_ No \_\_\_\_\_ (IF NO, GO TO QUESTION 46)

45. How could it be improved? \_\_\_\_\_

46. Would you participate in the PAS Program without the per acre fees? Yes \_\_\_\_\_ No \_\_\_\_\_

47. A few individuals have made some suggestions for changes in the PAS Program. It may or may not be possible for the DNR to make these changes. However, your opinion is important in helping the DNR decide what kinds of changes to consider.

Please enter a check mark under either important or not important for each item. If you have an additional suggestion, please write it in beside "other". ("F" at the bottom of the list). Please do not rank items until you have read Question #48.

	Important	Not Important	Rank
A. Increased enforcement patrols.....	( )	( )	( )
B. Free habitat improvement.....	( )	( )	( )
C. Free court representation in case of a law suit.....	( )	( )	( )
D. Free insurance against property damage.....	( )	( )	( )
E. Increase per acre fees.....	( )	( )	( )
F. Other (please list).....	( )	( )	( )

48. Please rank the items you considered important in the above question. Use the column on the far right in the table above marked "Rank" and use a "1" to indicate the ONE item you considered most important, a "2" for the ONE item you consider 2nd most important and a "3" for the ONE item you consider 3rd most important.

49. Please check the answer that best describes how often you issued green tags. (Please check only one of the following answers).

A. I never issued green tags to hunters..... ( ) (IF YOU CHECKED "A", GO TO QUESTION 51)  
 B. I sometimes issued green tags to hunters..... ( )  
 C. I almost always issued green tags to hunters..... ( )  
 D. Other..... ( )

50. Please describe your system for issuing tags or permission to hunt on the land you have in the PAS Program.

51. If you have any additional comments about hunting, hunters, the PAS Program or this questionnaire, please use this space to let us know what they are. If you need additional space, please use a separate sheet of paper.

THANKS FOR YOUR TIME AND COOPERATION!

## APPENDIX B

## MICHIGAN STATE UNIVERSITY

DEPARTMENT OF PARK AND RECREATION RESOURCES  
NATURAL RESOURCES BUILDING

EAST LANSING • MICHIGAN • 48824

March 12, 1979

## INITIAL DROPOUT COVER LETTER

Dear Michigan Landowner:

You have been chosen to take part in a study of the Michigan Department of Natural Resources' Public Access Stamp (PAS) Program. Since only a small number of landowners have been selected, your cooperation in filling out the enclosed questionnaire is very important. The Wildlife Division has notified us that you have withdrawn from the PAS Program. We are very concerned with obtaining information which could help improve the program. To do this it is necessary to find out from both current and former participants what their satisfactions and dissatisfactions with the program are. Please take a few minutes of your time now to complete and return the enclosed questionnaire. A stamped, self-addressed envelope has been included.

Michigan State University has been selected by the DNR to conduct an objective evaluation of the PAS Program. It is very important that the person who actually signed the contract with the DNR answers the questions or that they be answered as if he or she were answering them. We want to find out how you feel about the program and a little bit about you as well.

While the survey is being conducted, a record will be kept so that we can send reminders to those who might have forgotten to return their questionnaires. However, once the results are in, our mailing records will be destroyed and there will be no record of who returned questionnaires. This will guarantee your anonymity. We will assume when we receive your questionnaire that you have consented to be in this study.

Thank you for your time and help.

Sincerely,

David G. Feltus  
Graduate Assistant  
Project Coordinator

Donald F. Holecek  
Associate Professor  
Project Director

DGF:lh

Enclosures

## REMINDER POSTCARD

Dear

Two weeks ago we sent you a questionnaire on the Wildlife Division's Public Access Stamp program. We have not received yours yet. Completion and return of these questionnaires is vital to our research and your responses and opinions are very important to us. We need your help and cooperation to make this study successful and useful. Please take the time now to complete and return your questionnaire. If you have already done so thanks and please disregard this notice.

Thank you for your time and cooperation.

Sincerely yours,

David G. Feltus  
Research Assistant  
Project Coordinator

Donald F. Holecek  
Associate Professor  
Project Director

## MICHIGAN STATE UNIVERSITY

DEPARTMENT OF PARK AND RECREATION RESOURCES  
NATURAL RESOURCES BUILDING

EAST LANSING • MICHIGAN • 48824

April 5, 1979

## FOLLOW-UP PARTICIPANT COVER LETTER

Dear

Last week we sent out post cards as reminders to landowners who had not returned their questionnaires. Some landowners have contacted us and expresses willingness to help us, but said that they had not received a questionnaire or that it had been misplaced. As a result, we are mailing an additional questionnaire to all landowners who we have not as yet heard from.

Your opinions and responses are important to us and the DNR. We need your help to identify PAS program problems and strong points. Only if you provide this information can the program be improved. Help us and take a few minutes of your time to fill out the enclosed questionnaire. Please return your questionnaire even if you don't answer every question.

If you do intend to complete a questionnaire for us, please take the time to do so now as this is the last reminder we will be sending you. If you have already returned a questionnaire, thank you and please throw away the one enclosed.

Sincerely yours,

David G. Feltus  
Graduate Assistant  
Project Coordinator

Donald F. Holecsek  
Associate Professor  
Project Director

DGF:fp

Enclosure



## MICHIGAN STATE UNIVERSITY

DEPARTMENT OF PARK AND RECREATION RESOURCES  
NATURAL RESOURCES BUILDING

EAST LANSING • MICHIGAN • 48824

## FOLLOW-UP DROPOUT COVER LETTER

April 5, 1979

Dear

Last week we sent out post cards as reminders to landowners who had not returned their questionnaires. Some landowners have contacted us and expressed willingness to help us, but said that they had not received a questionnaire or that it had been misplaced. As a result, we are mailing an additional questionnaire to all landowners who we have not as yet heard from.

Our records indicate that you have withdrawn from the PAS program. We found that people who have withdrawn from the program are the least likely to return our questionnaire. However, landowners who have withdrawn are very important to this study. We need to know what makes them drop out. If problems with the program are the cause, we need to find out what they are. Only if you return your questionnaire can the DNR identify and solve program problems and improve program strong points.

We want and need your responses and opinions, even if you don't answer every question. Please help us and take a few minutes of your time to complete and return the enclosed questionnaire.

If you do intend to complete a questionnaire for us, please take the time to do so now as this is the last reminder we will be sending you. If you have already returned a questionnaire, thank you and please throw away the one enclosed.

Sincerely yours,

David G. Feltus  
Graduate Assistant  
Project Coordinator

Donald F. Holecek  
Associate Professor  
Project Director

DGF:fp

Enclosure

## APPENDIX C

## APPENDIX C

### LIST OF CITIES AND TYPE 1 AND TYPE 2 TOWNSHIPS

TYPE 1 TOWNSHIP: a township which is entirely included in an urbanized area or one into which an urbanized area extends.

TYPE 2 TOWNSHIP: a township immediately adjacent to Type 1 Township.

TYPE 3 TOWNSHIP: a township or townships which satisfies both of the conditions above.

<u>COUNTY</u>	<u>URBANIZED AREA</u>	<u>CITY CODE</u>	<u>TYPE 1 TOWNSHIP</u>	<u>TYPE 2 TOWNSHIP</u>
Barry	Battle Creek	1		Assyria Johnston Barry
Bay	Bay City	2	Portsmouth Frankenlust Hampton Bangor	Merriot Hampton Monitor Kawkawlin
Calhoun	Battle Creek	1	Battle Creek Bedford Emmett Pennfield	Convis Fredonia Leroy Marshall Newton
Clinton	Lansing	3		Bath Dewitt Watertown
Eaton	Lansing	3		Windsor Delta
Genessee	Flint	4	Burton Flint Genessee Mount Morris	Atlas Clayton Davison Flushing Forest Gaines Grand Blanc Montrose Mundy

<u>COUNTY</u>	<u>URBANIZED AREA</u>	<u>CITY CODE</u>	<u>TYPE 1 TOWNSHIP</u>	<u>TYPE 2 TOWNSHIP</u>
Genessee	Flint	4		Richfield Thetford Vienna
Ingham	Lansing	3	Delhi Lansing Meridian	Alaiedon Aurelius Vevay Williamston
Jackson	Jackson	3	Blackman Summit	Henrietta Leoni Liberty Napoleon Rives Sandston Spring Arbor Tompkins Columbia Hanover
Kalamazoo	Kalamazoo	6	Kalamazoo Portage	Alamo Brady Comstock Cooper Oshtema Pavilion Prairie Ronde Richland Schoolcraft Texas
	Jackson- Kalamazoo	13		
	Jackson- Kalamazoo- Saginaw	14		
Kalamazoo	Battle Creek	1		Bellevue Charleston Climax Ross
Kent	Grand Rapids	9	Grand Rapids	Alpine Plainfield Caledonia Cannon Ada Cascade Caledonia

<u>COUNTY</u>	<u>URBANIZED AREA</u>	<u>CITY CODE</u>	<u>TYPE 1 TOWNSHIP</u>	<u>TYPE 2 TOWNSHIP</u>
Kent	Grand Rapids	9		Gaines Byron
Macomb	Detroit	7	Sterling Heights Warren	Clinton Macomb Ray Shelby Washing
Muskegon	Muskegon	8	Laketon Muskegon Norton Shores	Cedar Creek Dalton Eggleson Fruitland Fruitport Sullivan
Oakland	Detroit	7	Bloomfield Hills Novi Quakerton Southfield Troy	Avon Bloomfield Commerce Farmington Oakland Pontiac Orion Whitelake West Bloomfield
Ottawa	Grand Rapids	9		Georgetown Jamestown Tallmadge Wright
Ottawa	Muskegon	8		Springlake
Saginaw	Bay City- Saginaw	12	Portsmouth	Kochville Carrolton
Saginaw	Saginaw	10	Buena Vista Saginaw Spaulding Portsmouth	Albee Blumfield Bridgeport Kochville Swan Creek Taymouth Thomas St. Charles Tittabawassee Carrolton

<u>COUNTY</u>	<u>URBANIZED AREA</u>	<u>CITY CODE</u>	<u>TYPE 1 TOWNSHIP</u>	<u>TYPE 2 TOWNSHIP</u>
Washtenaw	Ann Arbor	11	Ann Arbor Pittsfield Scio	Lima Lodi Northfield Salem Saline Superior Webster York Ypsilanti
Wayne	Detroit	7	Detroit Livonia Westland	Browston Canton Huron Plymouth Romulus Van Buren

## APPENDIX D

## APPENDIX D

TABLE 32

## PERCENT ORGANIZATION MEMBERSHIP

Subgroup	All Respondents	All Participants	Dropouts & Non-renewals	Non-urban Fringe Participants	Urban Fringe Participants
Michigan United Cons. Clubs	7.1	6.7	9.7	7.5	3.7
National Rifle Association	4.4	4.6	2.8	4.8	3.7
Ducks Unlimited	1.0	1.2	0.0	1.1	2.4
Trout Unlimited	.4	.5	0.0	.5	1.2
Local Hunting or Fishing Club	3.6	3.9	1.4	4.3	3.7
Michigan Env. Action Council	1.4	1.4	1.4	1.1	2.4
Farm Bureau	36.5	35.6	41.7	37.0	25.6
National Farmers Organization	4.0	4.2	2.8	4.3	6.1
Soil Conservation Society	14.5	13.9	18.1	14.5	11.0
Grange	3.8	3.9	2.8	4.0	6.1
Other Agricultural Org.	5.6	5.6	5.6	5.9	3.6
Other Sporting Org.	1.4	1.6	0.0	1.9	0.0
Other Environmental Org.	.6	.7	0.0	.5	1.2
Other Unspecified Org.	.6	.7	0.0	.5	2.5



## LIST OF REFERENCES

## LIST OF REFERENCES

- Babbie, Earl R. Survey Research Methods, Belmont: Wadsworth Publishing, 1973.
- Barrett, Paul M. "Number 9 Wire: Symbol of a Trend." Michigan Conservation, XXIV, No. 1 (1955), 19-20. as cited by Richard Westfall in Landowner Willingness to Allow Public Access for Three Recreational Activities: A Study of Rural Landowners in Kent County, Mich. Master's Thesis Department of Park and Recreation Resources, M.S.U. 1975.
- Belyea, Glenn Y., and Lerg, John M. Public Use of Southern Michigan Game and Recreation Areas. Michigan Dept. of Natural Resources Wildlife Division Report No. 2754, Jan. 1976.
- Boyce, Arlo. "Public Access the National Picture." Paper, Michigan Department of Natural Resources Wildlife Division. April 4, 1975.
- \_\_\_\_\_. "Lands No Longer Available for Hunting in Michigan." Michigan Dept. of Natural Resources Wildlife Division unpublished internal memorandum. April 4, 1975.
- Harris, Charles D. "Who Pays for Wildlife?" Michigan Natural Resources Magazine. Sept.-Oct. 1977.
- Holecek, Donald F. and Westfall, Richard D. Public Recreation on Private Lands - The Landowners' Perspective. Research Report Station, East Lansing, Michigan, 1977.
- Kitchel, Daniel S. Recreation on Private Land, Michigan Department of Natural Resources, Lansing, Michigan, 1978.
- Mahoney, Edward M. "Land Procurement Techniques Currently Being Employed by State Recreational Agencies" Technical paper M.S.U. Dept. of Parks and Recreation Resources, 1975.
- Nie, Hull, et. al. SPSS (Statistical Package for the Social Sciences) 2nd ed. McGraw-Hill Book Company, New York N.Y., 1975.

- Palmer, Walter L. An Analysis of the Public Use of Southern Michigan Game and Recreation Areas. Michigan Dept. of Natural Resources, Research and Development Report No. 102, March 14, 1967.
- Parker, Jon M. Thumb Area Wildlife Enterprise Analysis, Department of Fisheries and Wildlife, Michigan State University, East Lansing, Michigan, 1975.
- Shands, William E. and Healy, Robert G. The Lands Nobody Wanted. Washington D.C. The Conservation Foundation, 1977.
- U.S. Bureau of Census. Census of Agriculture: 1974, Vol. 1.
- Westfall, Richard D. Landowner Willingness to Allow Public Access for Three Recreational Activities: A Study of Rural Landowners in Kent County, Michigan. Master's Thesis Dept. of Park and Recreation Resources, Michigan State University, 1975.
- Womach, Jasper, "A Test of the Assumptions Behind the USDA's Pilot Public Access Program", unpublished paper, U.S. Department of Agriculture, Washington, D.C., 1975.
- \_\_\_\_\_, "An Evaluation of the ASCS Pilot Public Access Program", Resource Document, U.S. Department of Agriculture, Washington, D.C., 1975.

MICHIGAN STATE UNIV. LIBRARIES



31293100632672