Audience survey of Montana Outdoors magazine

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AN AUDIENCE SURVEY OF MONTANA OUTDOORS MAGAZINE

By

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B.A., St. Lawrence University, 1975
Presented in partial fulfillment of the requirements for the degree of Master of Arts
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1985

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March 12, 1986
Date
To be effective, magazines must be edited with an understanding of the editorial preferences and interests of readers. One way to determine preferences and interests is to conduct an audience survey.

An audience survey of Montana Outdoors, the official magazine of the Montana Department of Fish, Wildlife and Parks, was conducted in the spring of 1984. The researcher developed a mail questionnaire to determine reader characteristics, reading habits and editorial preferences. Questionnaires and supporting materials were mailed to a systematically selected sample (every 32nd name) of subscribers. Of the questionnaires deliverable, 76.5 percent were completed and returned within 10 weeks.

Responses showed that the typical Montana Outdoors subscriber is male, is between age 25 and 44, has received some college training and is an active hunter, fisherman and camper. He prefers articles on big-game management, outdoor photography and "how to/where to" features on hunting and fishing. Articles on snowmobiling, cross-country skiing and trapping are the least preferred. He subscribes to the magazine out of personal interest, reads all or most of each issue, saves copies for future reading or reference and has been a subscriber for more than 3 1/2 years.

Responses showed that most subscribers like the magazine as it now is published. Periodic articles oriented toward the interests of women and children might draw more readers from these underrepresented audience groups.
TABLE OF CONTENTS

ABSTRACT ........................................... ii
LIST OF ILLUSTRATIONS .............................. v
ACKNOWLEDGMENTS .................................... vi

Chapter

I.  INTRODUCTION ................................. 1

II. MONTANA OUTDOORS: ITS PRESENT FORM AND HISTORY ................. 6

III. MONTANA OUTDOORS: ITS FUNCTION AND IMPORTANCE .................. 10

IV. PAST SURVEYS OF STATE CONSERVATION MAGAZINE READERS ............ 18

V. OBJECTIVES OF THIS RESEARCH .......................... 22

VI. METHODS ...................................... 25
    Participation of Other Individuals ................... 25
    The Survey Technique ............................... 26
    Sample Size and Selection ........................... 29
    Questionnaire Design ................................ 31
    The Cover Letter .................................... 36
    The Return Envelope ................................ 41
    Mailing Procedures .................................. 43
    The Follow-up Effort ................................ 44
    Editing and Analysis of Responses .................... 47

VII. RESULTS AND DISCUSSION ....................... 57
    The Problem of Nonresponse .......................... 58
    Analysis of Individual Responses .................... 59
        Part I: Reading Habits and Editorial Preferences ............. 59
        Part II: Characteristics of Respondents ...................... 80
        Part III: Administrative Questions ....................... 96
LIST OF ILLUSTRATIONS

1. Sex of Respondents ................................. 81
2. Ages of Respondents ................................. 84
3. Education of Respondents ............................ 86
4. Occupations of Respondents .......................... 90
5. Outdoor Activities of Respondents .................... 93
6. Respondents Who Purchased Hunting or Fishing Licenses in 1983 ................................. 94
7. Membership of Respondents in Conservation-Oriented Organizations ............................... 97
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It is to these loved ones, then, that this thesis and all the work that went into it are dedicated.
CHAPTER I

INTRODUCTION

Lane Palmer, author, lecturer and editor of the Farm Journal, says:

... More completely perhaps than any other manufactured product, magazines portray the people who make them and buy them. Weekly, fortnightly, monthly—they hold a mirror up to man because they are filled with his ideas and ideals. When ideals clash and change; when, as now, ecology challenges economy... societies change. And magazines must change with them—in fact, help lead the change—or die.

Because they are both the cause and victim of change, magazines are among the most volatile of businesses. A magazine which serves a new area of reader interest can be among the most profitable of ventures, while a magazine which fails to change with its readers' interests can quickly drown in red ink.¹

Pick up the nearest periodical magazine—any one will do—and quickly leaf through its pages. In most cases it will contain a conglomeration of feature articles, photographs, standing columns and slightly out-of-date news items directed toward topics the editor and other staff members of the publication believe are of current interest to the members of their constituency—be they farmers, runners, pilots, doctors, sportsmen, the public at large, whatever. And if you subscribe to that magazine, undoubtedly you will find articles of interest to you.
But how much of its content really piques your interest? How many pages or sections do you have to fan over before you encounter a headline that honestly catches your attention, one that promises reading of real interest to you? Let's hope it's not too many, or the magazine may have lost one more reader.

The need to produce a magazine that reflects the current interests of its readers is as imperative to a magazine's staff and publisher as increasing subscriber rolls and keeping profits ahead of losses. In fact, if reader interests are not considered and addressed, publishing a successful magazine may prove impossible.

Considering and addressing those interests requires, as a first step, that a magazine's staff keep in touch with its readers—know who they are and discover their needs. And as those readers and their concerns change, so too must the magazine that seeks their attention. "A magazine that fails to do so," says one author, "loses old readers and fails to attract new ones."² "A sure path to failure," says another, "is to publish the same magazine this year that pleased last year's readers. Not only do needs and interests change, the audience changes as old readers depart and new ones take their place."³

Producing a product that reflects the current interests and needs of its readers is as important to the staff of a small special-interest periodical as it is to the staffs of the largest general-interest magazines. Although
subscribers to special-interest magazines undoubtedly have at least one broadly defined trait in common, the staff of such a magazine cannot assume that all readers of the publication share the same degree of interest in every article published.

Similarly, although the staff of a large general-interest magazine may publish what it hopes will be of interest to all, the chance that everything it prints will be read by all of its constituents is slim indeed.

Designing an editorial mix that addresses the interests of all readers in some way is one of the staff's most difficult tasks. Nevertheless, striving to do so is imperative if the magazine is to grow and prosper.

The need to address reader needs and interests and develop an effective additional mix is perhaps no more pronounced than it is for the staff of a state conservation magazine. Subscribers to such magazines, most commonly produced by state fish-and-game or other natural-resource-related agencies, come from many walks of life--farming, medicine, labor, education, wood products, law, research, etc.--and their editorial preferences may be as varied as their characteristics. Some will be interested in ecology and wildlife management, others primarily in natural history and recreational opportunities in natural areas. And then there are those who subscribe solely to read hunting and fishing stories.
Coupled with the fact that a growing number of outdoor, sporting and natural-history publications are competing for the dollars of these readers, the staff of such a magazine is hard-pressed to find an effective way to meet all of its readers' desires.

But even if this staff could find a magical way to address the varied editorial preferences of all these readers, it still must realize that the interests of its readers, like those of any magazine audience, are continually changing.

Conservation writer George Laycock, speaking to the Thirty-fifth North American Wildlife Conference on the value and purpose of state conservation magazines, recognized that fact and emphasized the need to keep the content of such magazines current. In his words:

Successful magazines are changing, growing creations. While they are not newspapers, they are, properly edited, a reflection of the times. Too many state publications still carry subject matter that was tired and dull a generation ago. Good white space is given over to articles of limited interest. We are told once more about covered bridges, or how the art of the village smithy hasn't really expired although blight has killed the spreading tree beneath which he stood.

Kathryn Blackfield, who conducted a reader survey of Wisconsin Natural Resources magazine in 1980, concurs: "The key to a successful state magazine--or any magazine--appears to be the ability of its staff to cover new issues as audience concerns and interests change."
So how can the staff of a state conservation magazine address the changing interests of its ever-changing audience and still maintain some sense of editorial direction? And how does it know what the concerns of its readers are at any given time?

One way is to survey its readers. The staff of Montana Outdoors magazine did just that.

Chapter Notes


5Blackfield, p. 12.
CHAPTER II

MONTANA OUTDOORS: ITS PRESENT FORM AND HISTORY

Montana Outdoors, official publication of the Montana Department of Fish, Wildlife and Parks,* is a glossy, four-color, 40-page magazine (including covers). Published bimonthly, it has a circulation of 37,000 (Montana and nonresident subscribers, complimentary copies and newsstand copies). The price for one-year is $7 (six bimonthly issues). Newsstand copies cost $1.50.

The staff comprises a full-time editor, a full-time associate editor and a part-time art director. Subscriptions and mailings are handled by a contracted computer services company. The magazine is printed by a firm in Wichita, Kansas.

Articles and other items selected for publication are reviewed by an eight-member advisory board comprising the magazine's editor and representatives of each of the department's seven divisions and supporting work units.

The board meets quarterly to discuss plans for forthcoming issues and to set editorial direction.

*The name of the agency was changed from the Montana Department of Fish and Game to the Montana Department of Fish, Wildlife and Parks by the 1979 Montana Legislature.
Photographs, artwork and text are provided by the staff, a department photographer, department information officers, other department staff and nondepartmental writers, photographers and artists. Free-lance contributors are not paid.

*Montana Outdoors* is the product of a long, somewhat erratic evolution from earlier publications.

According to Vern Craig,* a long-time department employee, the first periodicals produced by the Montana Fish and Game Department were *The Big Horn*, a monthly eight-page tabloid published from 1926 to September, 1927, and *Montana Wildlife*, a monthly 14-page tabloid published from June, 1928, through the spring of 1932. Both publications were distributed free.

Those earliest attempts were followed by other publications that also were short-lived. *Montana Fish and Game Notes*, published from January through September of 1936, was an 18-page tabloid "printed on a mimeograph or some similar type of stencil machine."¹ Subscribers paid 10 cents an issue.

After nearly an eight-year lapse, another tabloid-type publication, the *Montana Wildlife Bulletin*, appeared. This

*Vern Craig retired from the Department of Fish, Wildlife and Parks in the summer of 1983 after 31 years with the agency. He was editor of *Montana Wildlife* and *Montana Outdoors* magazines from 1960 to 1970.*
eight-page newsletter was produced bimonthly from January, 1944, through February, 1945.

*Sporting Montana* was the first attempt at an actual department magazine."² Started in 1950, this 28-page quarterly was renamed *Montana Wildlife* in 1952. Copies were distributed free to all who requested them, and one issue every second year served as a biennial report to the legislature, as required by law.

Between May, 1966, and February, 1968, *Montana Wildlife* was supplemented as the information and education publication of the Fish and Game Department by an eight-page booklet called *Montana Outdoors*. The monthly booklet eventually replaced *Montana Wildlife* as the official department publication.

*Montana Outdoors*, with most articles devoted to hunting, fishing and game management, kept its booklet form until November, 1970, when the first issue of what was to grow into the present magazine was printed. For the first time, *Montana Outdoors* took the form of a bona-fide conservation magazine. Also for the first time, the magazine had a full-time editor, an assistant editor, a circulation manager and a secretary. A full-time layout and graphics position was added in 1974.

*Montana Outdoors* in the 1970s became a "complete" department publication. While articles on hunting, fishing and game management still were printed, it also reported and
explained department policies, research programs, regulations and environmental concerns.

Since 1974, the magazine has changed editors (1978), format, cover designs, and nameplates. It lost two full-time positions—the secretary and circulation manager. In the process, however, it has evolved from just one of many state conservation magazines into an award-winning conservation publication.

Chapter Notes

1Vern Craig, interview, November, 1984.

2Ibid.
CHAPTER III

MONTANA OUTDOORS: ITS FUNCTION AND IMPORTANCE

Like most progressive state conservation magazines, Montana Outdoors has several goals. First, it is designed to provide its readers with accurate, understandable information through which they can evaluate current resource management policies. Second, it is produced to educate readers about and instill an appreciation for the resources on which policies are based. Third, it is published with the hope that some of the material presented will provide enjoyable, lighter reading on topics of special interest to the audience. And last, but perhaps most important to department administrators, it is published to set in print the policies, regulations and resource management objectives of the Montana Department of Fish, Wildlife and Parks—what is the department doing, where is it doing it, and why?¹

Slightly more than 80 percent of the states currently produce some type of conservation magazine.² Many seem to have set similar goals for their conservation magazines, while some, evidently, have not.
Commenting on those state conservation publications that cater predominantly to sportsmen, Gregg emphasizes that these magazines are not effectively realizing their total purpose. The editors of such publications, he says, seem to think that the magazine's purpose is to "instruct its readership in the fine points of game and fish hoggery."³ He continues:

"... Possibly they have tired of trying unsuccessfully to interest the public in biology, and go to the opposite extreme in the hope that readers will feel kindly toward the department for helping fill their creels and game bags. At any rate, overemphasis on techniques of wildlife slaughter is as effective in destroying educational value as a full-page picture of the director kissing a baby angler. Good writing and design, plus a judicious sprinkling of how-to articles, is a better approach to reader interest than abject surrender.⁴

Laycock agrees that the full effectiveness of a state conservation magazine can be compromised by appealing to the outcries of one audience group at the expense of another. Although faced with the pleadings of many entertainment-minded sportsmen, he urges state publication editors to keep all the goals of the magazine in mind:

"... Design your conservation periodical to appeal to a broader audience. There are commercially successful, and highly experienced magazines, catering to the national hunting and fishing audiences. As a general plan, state publications neither should nor can compete with them.⁵

At the other end of the editorial spectrum are those state magazines that exhibit a reverence for highly technical writing and the scientific jargon of resource
professionals. Although such writing and jargon may appeal to some of the more highly educated in the magazine's audience, highly technical articles may not be read by a large number of the publication's readers. Laycock recognizes the need for state publication editors to pull themselves away from the purely scientific and to blend other types of resource articles with such materials:

"... Articles on ecological trouble spots are not the only subjects available to editors and writers. Some state magazines do an excellent job of presenting straight natural history to their readers. The wonders of the natural world offer motivation for our conservation writing. Mystery, surprise, tragedy, beauty are all around the person venturing into the fields and woods. And the good conservation magazine can convey this to readers."

Obviously, what is needed is a publication that strikes a balance between the needs of different audience groups while still meeting the several purposes for which it is published.

The editor of a state magazine should never let it escape its function as a vehicle for educating readers and communicating conservation information. Laycock says editors should "aim for a balanced publication," yet one that "tells the story of the resources and helps readers understand resource interrelationships." Similarly, Gregg sees the need for a state publication to meet its goals and not be swayed in the midst of an editorial balancing act. "The magazine," he says, "should be focused on the resource and its management, not the harvest of the resource or the individuals who do the managing."
Because of their capacity for educating the public in natural resource issues at a time when public interest in natural resources is growing, state conservation magazines, including Montana Outdoors, have grown to be important informational vehicles for many natural resource agencies.

This importance is recognized in the literature. Kilgore says:

... State game and fish magazines are just one of the many methods or media, but they are an important contact between the resource management agency and the public. The material contained in these magazines and the way it is presented may well determine the public's attitude toward sound conservation measures.9

Juanita Mahaffey, past director of information and education for the Oklahoma Game and Fish Department, says:

The conservation magazine establishes an official "house" organ around which the rest of the information-education program can be built. It is a starting point and a good one.10

Frazier points out that "magazines fulfill a unique function and add balance to the overall information and education program."11

Shay, in 1978, observed that the conservation magazine "still is maintained as the mainstay of the state information and education budget."12

And when Gilbert asked state agencies to rank the most frequently used methods of communicating policies, he found the conservation magazine to be the most popular.13

Also, because state conservation magazines are as much public relations tools as they are vehicles for communi-
cating natural resource information, editors should try to make them as effective as they can be.

In the words of Laycock:

... The state magazine may be the only contact the state agency has with a large percentage of the people it serves. For this reason alone, the best possible effort is justified.14

Because one of the primary goals of Montana Outdoors is to present enjoyable and informative reading on topics of special interest to its audience, the only way to make the magazine as effective as it can be is to establish two-way communication between the magazine's staff and its audience.

Fazio and Gilbert have recognized the need for two-way communication in all types of public relations work, an arena in which state conservation magazines surely can be placed. They say:

Public relations must facilitate two-way communication. This may not be possible in every action taken, but it must occur at some point in working toward the goal that the action is intended to achieve. For example, communication may not be possible in a persuasive pamphlet prepared for mass distribution. However, preparation of the pamphlet would be on shaky ground if two-way communication was not part of the planning process. The opportunity to communicate must also be satisfactory to both parties involved in any issue rather than merely being a pretense on the part of either.15

Gilbert also says:

... The flow of information must be bi-directional to be adequate and effective. The sender must receive information from the person(s) being contacted. The response from those receiving the message tells the person responsible for the communication whether he is successful and suggests changes that need to be made.16
Similarly, John says for a conservation magazine to be truly effective, editors must present material in understandable terms and encourage two-way communication by listening to the concerns of their readers:

We must improve the quality of our message by using words that are likely to be understood—by talking in the every-day language of our listeners. But, more than that, we should concentrate on listening to what they have to say.¹⁷

In the end, the penalty for not establishing two-way communication between readers and a magazine's staff may be a loss of valued readers. Without knowing the concerns and interests of its readers, a staff may fail to publish articles about subjects that are important to a major segment of its audience.

For example, a recent study in Idaho showed that the state's wildlife agency was slow in responding to increasing public interest in nongame wildlife and the various non-consumptive uses of this resource.¹⁸ Likewise, when Frazier of the Utah Division of Wildlife Resources conducted a survey of magazine reader interests in his state in 1976, he found that 61 percent of the respondents expressed a preference for articles specifically about wildlife rather than the more inclusive natural resources.¹⁹ In the absence of demonstrable efforts on the part of a magazine staff to attend to its readers' interests, those readers may search for other information sources that address their interests.

One obvious way for a magazine staff to achieve two-way communication with readers and to address their inter-
ests is to conduct a reader survey. If well designed, such a survey will reveal not only the interests of those readers but also some of their characteristics.

Sander says that "the editor and writer are working in a vacuum when they do not know the audience's educational level, age, sex or interests."^{20}

The rationale behind conducting any type of audience survey is the inherent understanding that a magazine, or any publication for that matter, might be read more and understood better if the editor or editors would try to focus on their readers' interests and the full purpose of the magazine.\textsuperscript{21}

Chapter Notes

\textsuperscript{1} Ron Aasheim, interview, October, 1984.


\textsuperscript{4} Ibid.


\textsuperscript{6} Ibid.

\textsuperscript{7} Ibid.

\textsuperscript{8} Gregg, p. 623.


14 Laycock, p. 391.

15 Fazio and Gilbert, p. 6.

16 Gilbert, p. 98.


18 Fazio and Gilbert, p. 2.

19 Frazier, p. 94.


21 Kilgore, p. 125.
CHAPTER IV

PAST SURVEYS OF STATE CONSERVATION MAGAZINE READERS

Despite the fact that audience surveys can be beneficial, only a few have been conducted on state conservation magazines.

Zimmerman wrote in 1968 that "no completed studies were found to give writers an understanding of characteristics of conservation journalism audiences."  

Sanders found in her 1971 survey of state conservation magazine editors that only 10 had attempted to study their audiences.  

Sullivan, in a 1978 study of Oregon Wildlife readers, said:

... Few readership studies in the field of fish and wildlife have been performed to obtain feedback and determine the impact of the magazine medium on the audience.  

A survey of state conservation magazine editors conducted for this study of Montana Outdoors readers indicated that few state agencies with conservation magazines had surveyed the readers of those magazines.
Letters requesting information on audience surveys and the results of those surveys were sent to the editors of 38 well-established state conservation magazines. Of those who received letters, 23 responded. Only 14 said that such surveys had been conducted. Another three editors said that although they had never conducted a survey, they were interested in doing so and would like to see the results of this research. One editor was in the process of conducting such a survey.

The survey also indicated that only a few of the surveys were comprehensive enough to provide a basic understanding of reader characteristics as well as reader interests. Most of those conducted were elementary in nature; the survey form comprised a clip-out or tear-out printed form bound into the magazine, and the researchers made no attempt to reach nonrespondents.

Although most of these forms included a postage-paid permit, response to the forms, in general, was low. The lack of an incentive for the readers to respond and the elemental nature of the survey technique itself surely contributed to such low response rates. A reader survey conducted by Montana Outdoors in the summer of 1973 suffered from similar deficiencies.

Two state magazines for which comprehensive audience surveys have been conducted are Wisconsin Natural Resources,
published by the Wisconsin Department of Natural Resources, and the Missouri Conservationist, official publication of the Missouri Department of Conservation.

In 1979, Kathryn Blackfield, then a graduate student at the University of Wisconsin-Madison, surveyed 500 readers of Wisconsin Natural Resources. Her survey, comprising a mailed questionnaire packet and four follow-up mailings, yielded a response rate of 78.6 percent. The results provided insights into the demographic characteristics of Resources readers, reading habits and subscriber interests.

In 1982, the staff of the Missouri Conservationist surveyed 1,000 Conservationist readers to determine their conservation-oriented reading interests, demographic characteristics and their likes and dislikes concerning articles published in the September, 1982, issue.

By sending an original questionnaire packet and three follow-up mailings, the Conservationist staff achieved a response rate of 85 percent.

These studies showed that the results of a well-designed audience survey could be useful and beneficial to the staff of a state conservation magazine.

With this in mind, the staff of Montana Outdoors initiated this survey of Montana Outdoors readers. Although conducting such a survey had been contemplated for some time, lack of staff time and the expense of hiring an outside contractor to conduct one delayed doing so.
When the researcher said he would be interested in conducting an audience survey for the magazine, the opportunity finally presented itself.

Chapter Notes

1Donald E. Zimmerman, "Determination of the Sources of Conservation Information and Characteristics of Selected Kansas Sportsmen" (Master's thesis, Kansas State University, Manhattan, 1968), p. 6.


4Blackfield, p. 23.


CHAPTER V

OBJECTIVES OF THIS RESEARCH

Among the many questions the Department of Fish, Wildlife and Parks hoped to answer through this survey were:

1) What types of people read Montana Outdoors and how valuable is the magazine for providing them with conservation information?

2) What are their reading habits and what parts of the magazine do they find most useful?

3) What types of articles and other printed materials in Montana Outdoors do they like the most and the least, and is the magazine providing the kinds of information they desire?

4) How can the magazine be tailored to better meet their overall needs?\(^1\)

Thus, the researcher and Dave Books, editor of Montana Outdoors, established some primary objectives:

1) to determine the editorial preferences of a selected yet, we hoped, representative group of Montana Outdoors readers. That is, what do current readers like and dislike about the content and format of the magazine in its present form?
2) to determine some of the personal characteristics and reading habits of this selected group. This information would be useful in determining who the magazine's "customers" really are and in identifying the major "market segments" (sportsmen, other outdoor recreationists, conservationists, etc.) of the magazine's audience. It also would be useful in determining which parts of the magazine are read the most and the least.

3) to suggest ways in which the editorial content and format of Montana Outdoors might be changed to increase the magazine's overall effectiveness in meeting the desires of its readers and the informational goals of the Department of Fish, Wildlife and Parks.

4) to develop a survey form useful for evaluating the readership of similar publications. Conservation agencies of several other states face a similar need to survey the audiences of their publications. By designing a study that would meet these objectives, the researcher hoped the staff of Montana Outdoors would be able to produce a magazine that would better reflect reader interests and, thus, would be more thoroughly read.
Chapter Notes

1Dave Books, interview, October, 1983.
CHAPTER VI

METHODS

Participation of Other Individuals

Because the present research was funded by the Department of Fish, Wildlife and Parks, the researcher sought the assistance of the Montana Outdoors staff and other department employees in planning the survey and developing the survey form.

Dave Books, the editor of Montana Outdoors and a member of the researcher's graduate committee, was instrumental in helping design the survey form and in seeing that it and a survey plan were reviewed by appropriate department personnel.

Because of his expertise in conducting large-scale surveys and analyzing survey results, John Cada, a fish and wildlife research specialist for the department, also helped develop the survey form. Cada designed the computer program through which the responses to the survey questions were analyzed.

Also instrumental in developing the survey form was Paul Polzin, a professor in the School of Business Administration at the University of Montana and director of economic research for the Bureau of Business and Economic
Research. Dr. Polzin also was a member of the researcher's graduate committee.

Two other members of the researcher's graduate committee, Charles E. Hood Jr. and Warren J. Brier, dean and former dean, respectively, of the School of Journalism at the University of Montana, assisted in designing the survey form and preparing appurtenant survey materials.

The Survey Technique

Basic survey research methods include the face-to-face interview, the telephone survey and the mailed questionnaire. Each method has its advantages and disadvantages, as outlined by Erdos and Seitz.¹

An evaluation of the advantages and disadvantages of each technique indicated that only the latter—the mailed questionnaire—seemed feasible for use in this survey. Although personal interviews and telephone surveys offer more control over respondents and typically produce higher response rates than do mailed questionnaires,² the costs in time and money associated with surveying a representative sample of the magazine's large, geographically dispersed audience (about half of the magazine's subscribers live in other states, some in foreign countries) by telephone or interviewing them face to face prohibited the use of these methods. Seitz supports the use of mail questionnaires in such cases.³
Previous research has shown that a mailed questionnaire can be a highly effective method of soliciting information from a population if used under the right conditions and if well designed. Erdos stated that in many situations "mail surveys are efficient, accurate and certainly the most economical method" of surveying a population.¹

Hockstim found likewise that "substantial cost savings can be realized through the use of a mailed questionnaire without sacrificing quality" of data.⁵

Robin found that the use of a well-designed mailed questionnaire resulted in returns that compare favorably with responses gathered through interviews.⁶

Also, Dillman and others showed that when implemented properly, mailed questionnaires can produce good results.⁷

And Buse found that when properly conducted, a survey based on a mailed questionnaire "can be an efficient method of data collection."⁸

Particularly when the members of the population to be studied share some traits or characteristics, research has shown that the use of a mailed questionnaire can be a highly effective research method. According to Bachrach and Scoble:

. . . If the researcher has reasonable grounds beforehand for believing that the universe he wishes to sample is skewed away from the normal adult population . . . a properly administered mailed questionnaire can be as efficient as, and cheaper than, use of the personal interview.⁹
Because the population for this survey was assumed to share some knowledge of natural-resource issues, to be literate and to share an interest in the content of *Montana Outdoors*, the population was considered to be homogeneous with respect to those characteristics.

Edgerton, Britt and Norman showed that mailed questionnaires can produce valid samples of such comparatively homogeneous groups.\(^1^0\)

Gibson and Hawkins found that "when surveying a relatively homogeneous group and asking questions about which the group can be assumed to be familiar . . . a mail questionnaire may produce substantially the same results as interviews at a much smaller cost."\(^1^1\)

The common interest the population was assumed to have in the content of the magazine also supported the use of a mailed questionnaire. Benson, Seitz and Stanton have documented the effectiveness of a mailed questionnaire when the population shares a common interest in the subject of the survey.\(^1^2\)

Inherent in the use of the mailed questionnaire is the understanding that if the questionnaire is not administered properly, poor response rates may bias the results.

Longworth said that if a mailed questionnaire produces less than a 50 percent return, "serious methodological questions can be raised as to the validity of the study."\(^1^3\)

But as Phillips has shown, the weaknesses of the mail questionnaire method "are primarily in the control of the
Dillman and others explain that mailed questionnaires can be effective research tools if appropriate measures are taken. As Benson, mailed questionnaires can be valuable if their "limitations are known and the results are properly understood and correctly interpreted."

Sample Size and Selection

Because the Department of Fish, Wildlife and Parks wanted to receive responses from a representative sample of Montana Outdoors readers yet keep costs to a minimum, Books and the researcher had to select a population that could be effectively yet economically surveyed. We determined this population to be all paid subscribers to the magazine. Although some readers (about 8 percent) buy copies of the magazine from the newsstand and others receive gratuity copies, we theorized that paid subscribers would provide an accurate list of readers from which a survey sample could be easily selected. Many of the recommended techniques for conducting an effective questionnaire, such as personalization of correspondence and follow-up mailings, also required that the survey population be easily identified.

Based on the recommendations of Polzin and statistical formulas presented by Cochran, we determined that a sample of about 1,000 subscribers would be more than large enough to yield useful data. Also, a larger sample
than actually necessary would lead to more confidence and precision in the results. We determined that this added precision and confidence would be worth the relatively small increase in cost.

The subscription list for Montana Outdoors is maintained by a professional computer services firm in Des Moines, Iowa. In May, 1984, the firm generated a systematic sample (every 32nd name from a list of about 32,000 paid subscribers) of 998 subscribers. Hansen, Hurwitz and Madow have justified the validity of using the systematic sampling method with a random start. Because the computerized mailing list was arranged according to the zip code of subscribers, the survey sample was stratified geographically.

Snedecor and Cochran concur with the appropriateness of the systematic sampling procedure for this type of survey.

A printout of the names and addresses of subscribers selected for the study indicated that three were on the wrong list and regularly received gratuity copies. Thus, these names were dropped from the list.

Also, because the printout showed that only seven subscribers (or about .01 of the total paid subscriber population) lived in foreign countries, these names were subsequently dropped from the list. Doing so, we theorized, would make the task of implementing the survey and receiving timely responses much easier.
Names and addresses of the remaining 988 subscribers selected for the survey were printed on two sets of mailing labels and stored in computer memory for later use in personalizing correspondence.

**Questionnaire Design**

Since the collection and analysis of survey data are often the most costly elements in survey research, researchers must ensure that survey forms are effectively designed.

Wholey says that because of the importance of developing a well-designed survey, "experts in questionnaire design should be involved in constructing the survey instrument if at all possible."^2^1

Based on this recommendation, the researcher enlisted the help of Dr. Paul Polzin, a survey research specialist for the Bureau of Business and Economic Research at the University of Montana, in constructing the questionnaire.

Francel and others emphasize the importance of designing a questionnaire that can be easily understood and answered by recipients and state that a clear, concise questionnaire will encourage a higher response rate than one that is not.^2^2

Weiss suggests that if a questionnaire "is well conceived and clearly worded, even people with little education can and will respond."^2^3
Questions in a draft of the questionnaire were first reviewed by Books and the Montana Outdoors advisory board, then by Polzin and the other members of the researcher's graduate committee.

Based on recommendations from the reviewers, the questionnaire was shortened from 40 questions to 26. Questions not essential to meet the survey objectives were eliminated. A number of questions not eliminated were reworded to draw more accurate responses from, and eliminate confusion for, recipients. The questions again were reviewed by Books, Polzin and the other members of the graduate committee.

Most questions were presented in the form of closed (forced-choice) questions. Francel, Robin, and Seitz have discussed the benefits and advantages of employing such a format.24

Imperative in the use of this format is the understanding that the researcher has to know the universe of answers well enough to list them properly. Because we could not be sure that all possible answers were listed, in most cases a space was provided so that the respondent could write in an answer. Such a technique follows the recommendations of Nixon.25 Following the suggestion of Epstein and Tripodi, "Don't know," "Undecided," and "Does not apply" answer categories were not used.26
Also based on the recommendations of Labaw, one open-ended (write-in) type question was provided. Labaw supports the use of such open-ended questions because they elicit free responses and "allow the respondent to indicate the depth of his feelings." Nixon also has shown that providing a "free answer" space may increase returns to a survey.

The Pretest. Once the questions were selected and refined, they were pretested on a systematically selected sample of 30 Montana subscribers (every (n)th name from the list of resident subscribers) to see if the questions, as worded, would present problems for respondents. Erdos and Seitz have described the benefits and value of such a pretest. Weiss says that "careful pretesting is essential before a questionnaire goes into the field. Questions and words that hold one meaning for the researcher may be interpreted very differently by respondents." Also, Levine and Gordon say that pretesting can be used to determine the "clarity and meaningfulness of the individual questions."

The computer firm in Des Moines, Iowa, that handles subscriptions for Montana Outdoors supplied the names and addresses of the subscribers to be pretested and printed these names and addresses on labels for mailing.
The questions to be used were retyped, organized into a logical train of thought (as recommended by Seitz), laid out to compose a four-page survey form and photocopied to produce a professional-looking questionnaire. This "preliminary" or test questionnaire then was folded and mailed to the pretest population with a letter explaining the purpose of the survey and a stamped return envelope addressed to Montana Outdoors.

The preliminary survey form also was administered to 10 of the researcher's co-workers to determine the time it should take a recipient to complete it. The average time required was 11 minutes, which, according to Goode and Hatt, is within the limits established for an effective mailed questionnaire.

Of the 30 pretest questionnaires mailed, 18 (or 60 percent) were returned by recipients; one was returned as undeliverable (no forwarding address).

The pretest revealed some problems in question wording and available response categories. Some changes in phrasing and terminology were recommended to reduce the possibility of influencing responses. Those problems were rectified and the questions were reworded into their final form (see appendix A).

Robin suggests that a questionnaire should be "as impressively reproduced as possible" to improve response rates and that printing should be preferred over mimeographing, photocopying and other reproduction methods.
Similarly, Robinson says that printing a questionnaire will increase responses, "in some instances quite a bit,"\(^{36}\) and Levine and Gordon say that a questionnaire should be printed rather than reproduced by other methods so that it won't be treated as just another "throw-away." The effective questionnaire should be able to "sell itself," they say.\(^{37}\)

Because printing also can reduce the overall length of a questionnaire and add visual appeal to a survey, Leslie suggests that printing a questionnaire should be considered.\(^{38}\)

Based on these recommendations and our contention that a survey form designed for the readers of what we trusted was a professional-looking magazine should be professional-looking in itself, we decided to print the questionnaire for this survey.

Also, based on the recommendations of those and other prominent survey practitioners, we decided to typeset all the text, print the text in black ink on a slightly off-white paper, use the *Montana Outdoors* logo at the top of the first page and make the questionnaire as visually appealing as possible. In addition, we selected a light-weight paper for the questionnaire so that it, a cover letter and a stamped return envelope could be mailed in a letterhead envelope at the first-class, 20-cent postage rate. To aid us in administering the survey, each questionnaire was stamped with a code number in the upper left-hand corner.
The final survey form is presented in appendix A.

Unfortunately, even a well-designed survey form cannot guarantee a good response rate. Thus, anyone planning to use a mailed questionnaire as a survey tool should explicitly address ways through which response rates can be improved.

Some effective ways listed in the literature are through the use of well-designed cover letters, postage-paid and preaddressed return envelopes, well-thought-out mailing procedures and dedicated follow-up efforts.

The Cover Letter

Like the questionnaire, the cover letter was designed according to the recommendations of prominent survey practitioners.

Champion and Sear say cover letters should be tailored to the study population to be of maximum benefit. They also say cover letters should always explain the nature of the study and contain a general appeal for the recipient to complete and return the questionnaire.  

Nixon says cover letters should be kept to one page and quickly arouse the recipient's interest in the subject of the study.

Francel says cover letters should explain the need for the information and the usefulness of the information the respondent will provide.
Erdos says it also is valuable to tell the recipient of the letter that he is important and his responses are important, and to describe ways in which he will benefit personally from the survey.\(^2\)

Erdos also says that a statement emphasizing that it will take only a short time for the recipient to complete the survey form should be included.\(^3\)

Robinson says cover letters should explain why the particular questions on the survey form are being asked and that letters should be written in a "warm, human, friendly, appreciative manner."\(^4\)

Francel concurs and says that, in addition to being written in a "personal, friendly tone," letters should include an "unpretentious obligatory statement" such as: Would you please do us a favor? "Human nature being what it is, most people will initially answer 'yes' to the question," he says.\(^5\)

Francel also says that letters should include words or phrases such as "right now" to influence respondents to return questionnaires promptly and an explanation that only a few persons are receiving the survey form to underscore the importance of the recipient's individual reply.\(^6\)

Nixon and Pearlin have shown that promising to treat all responses confidentially can increase returns.\(^7\)

Other researchers have documented the value and benefits of "personalizing" cover letters. As shown by
Nixon and Phillips, this can be achieved by addressing cover letters personally to individuals or, as shown by Buse and Phillips, by personally signing the letters.

The theory behind including any type of personalization on a cover letter is that such added touches can make the recipient feel that he is someone important to the researcher. Snelling found that the "number and quality of returns [in his study] established the personalizing approach as feasible, relatively inexpensive and highly successful" for increasing responses.

Researchers have found further that enlisting the cooperation of a professional organization or agency with whom recipients are assumed to be familiar to act as the sponsor of the survey, to supply letterhead for correspondence and to provide key personnel to sign the correspondence can add greatly to survey response.

All these recommendations were considered and most were used in designing the cover letter for this survey (see appendix B). Instead of individually typing each letter, as suggested by Moore, one photoready copy of the text of the letter was prepared on a word processor and this copy was used as the original to print all the cover letters needed. Doing so followed the suggestion of Seitz, who says that letters don't have to be individually typed if researchers can make them appear that they were individually typed.

Similarly, Carpenter says that the use of mass-produced letters in such cases can be justified if the final
product looks to be individually typed. By using such a technique, he says, "the appearance of personalization can be achieved without a substantial input of manual labor" and high response rates can be maintained.54

Once the letters were printed, they were shipped to Des Moines, where the computer firm that drew the subscriber sample imprinted the names and addresses of the persons to be surveyed at the top left-hand corner of the individual letters.

Seitz found that letters including the name and address of the person receiving the letter "will pull larger and better quality of response than an obvious form."55

To ensure that the benefits of personalization would be maintained, care was taken to carefully match the type and ribbons used on the printed text portion of the letters with the type and ribbons used to imprint the names and addresses of letter recipients. Doing so followed the recommendations of Buse.56

To further increase response rates, the letters were signed by Dave Books. However, rather than signing each letter personally, which would have proved to be an enormously time-consuming task, the letters were printed with a facsimile signature. Blumberg, Fuller and Hare say that using a facsimile signature rather than a handwritten signature on the cover letter yields no significant difference in response rates.57
Kawash and Aleamoni found likewise that a "personal signature had little effect as opposed to a facsimile signature" on the initial rate of return to a mail questionnaire.⁵⁸

According to the recommendations of Erdos, the facsimile signature was printed in blue ink.⁵⁹

Also, although Robin found that typing the subject's name in after the salutation was an effective way to personalize correspondence,⁶⁰ all letters were printed with the greeting "Dear Subscriber" rather than "Dear (recipient's name)."

Blumberg, Fuller and Hare found that selecting the impersonal salutation approach over the personal salutation approach should not affect response rates.⁶¹ Using the impersonal approach also would eliminate the need for a word processing operator to manually enter the names of each of the individual subscribers after the salutation. Thus, this technique was used.

Although printing the letters en masse, using a facsimile signature and using the impersonal salutation may have slightly reduced personalization, Carpenter suggests that an "investigator may choose to reduce personalization without foregoing a large portion of expected response" if a high response rate is expected.⁶² Because we expected a high response rate based on the results of the Wisconsin Natural Resources and Missouri Conservationist studies, as well as our own pretest, the use of techniques that slightly
reduced personalization but also reduced costs seemed merited and justified.

The Return Envelope

Several researchers have outlined the benefits of including a self-addressed, postage-paid envelope in a survey package. Plog states that including such an envelope in the survey package will increase responses because it makes it easy for the recipient to cooperate "without a great deal of involvement." Researchers also have shown that the envelope should be affixed with a first-class stamp rather than being metered or printed with a postal permit. Erdos says that stamped envelopes are more effective because they look "less like a conventional mail-out piece than a printed business-reply envelope does" and because many people will hesitate to throw away an envelope that has a stamp on it. Such reluctance to discard the envelope may increase response.

Similarly, Robinson and Agisim state that "rather than see a perfectly good postage stamp wasted, many people would prefer answering the questionnaire."

Price found that persons receiving a stamped return envelope were more likely to respond than those receiving an unstamped envelope and that the inducement provided for recipients to reply was more related to the convenience afforded by the envelope than the cost of purchasing the
Levine and Gordon say that using a stamp on the envelope will help impress the recipients "with the importance the research staff places on their questionnaire."

Based on these recommendations, the return envelopes that accompanied our questionnaires were affixed with first-class stamps and preaddressed (see appendix C).

Because Hensley recommends using stamps that have a novelty effect for recipients, we used those commemorating "Soil and Water Conservation," issued in the spring of 1984. Mayer concurs with the use of such commemorative stamps.

Although some observers may question the use of stamps because of the large number that will be wasted through nonresponse, Kimball says the "pulling power" of stamps to increase response "far outweighs the costs of the stamps wasted on nonreturns."

Because Erdos and Heath have shown that addressing the return envelope to the group or agency conducting the survey can have a negative effect on response, the return envelopes were preaddressed not to Montana Outdoors, but to the Fish, Wildlife and Parks research laboratory at Montana State University in Bozeman, where the responses would be analyzed.

Heath found that when a state agency uses its own address as the address to which completed surveys should be mailed, "these surveys seem to give inaccurate, over-
favorable results."

Since the questionnaire package would be sent to recipients in a number 10 envelope, number 9 envelopes were used for the return envelopes. Nixon concurs with using a return envelope that is one size smaller than the outgoing envelope. With such a scheme, he says, the respondent can mail back the questionnaire without encountering the irritating task of having to refold it. Trials showed that all questionnaires, as originally folded, would easily fit into the return envelopes used.

Mailing Procedures

A complete questionnaire package—cover letter, questionnaire, and stamped, preaddressed return envelope—was mailed May 17, 1984, to the 988 subscribers selected for the survey. The packages were mailed in Montana Outdoors letterhead envelopes affixed with mailing labels bearing the names and addresses of the individual subscribers and first-class commemorative stamps.

Blumberg, Fuller and Hare, and Hensley have documented the value of using stamps on the outgoing envelope as well as the return envelope.

The complete package was weighed several times throughout the preparation process to ensure that it could be mailed at the first-class, 20-cent rate.
The Follow-up Effort

Almost all prominent survey practitioners cite effective follow-up methods as one of the most valuable ways to increase overall returns to a mailed questionnaire.

Blumberg, Fuller and Hare say that follow-up efforts "have a substantial effect and indeed are essential for obtaining satisfactory response rates" to mailed questionnaires.7

Similarly, Phillips states that follow-up mailings to nonrespondents of the original request for information are a practical and effective way to increase response rates.78

Francel found that an additional 10 to 25 percent response can be achieved through follow-up efforts.79

Follow-up mailings also can be effective in reducing nonresponse bias.

Filion says that follow-ups are useful "as a means of exploring and correcting for nonresponse bias."80

Stanton says that in addition to producing a "noticeable increase in returns," a follow-up "decreases the possibilities of bias."81

Without a follow-up effort, Edgerton, Britt and Norman say, the "tendency will be to obtain replies from those who have a special interest in the subject under study, or who exhibit some characteristic or characteristics different from the nonrespondents."82

Toops says that the "sheer repetition of stimuli" provided by follow-up mailings is apparently the best way of
eliciting replies to a mail questionnaire.\textsuperscript{33}

To achieve this "repetition of stimuli," many researchers send out successive waves of follow-up mailings until the response rate to the survey approaches 100 percent. Dillman and others and Ferriss have found this method to be highly effective in increasing the overall number of returns.\textsuperscript{44}

However, because of time and financial constraints, the follow-up effort for this survey was limited to one mailing. Because the costs of this survey were being borne, in large part, by the magazine's subscribers, we believed that bombarding nonrespondents with successive waves of follow-up mailings might prove more deleterious than beneficial to the staff of \textit{Montana Outdoors}.

Kanuk and Berenson found that a "single follow-up effort appears to add a significant percentage to overall response rates, though the final results are not so dramatic as those obtained by multiple follow-ups."\textsuperscript{45}

Because we were limited to the use of one follow-up, we had to ensure that this mailing would be as effective as it could be.

To increase its effectiveness, we altered the original cover letter slightly to shift the emphasis from the importance of the research to the importance of the recipient's individual response (see appendix D). Doing so followed the recommendations of Leslie, Robin and Williams and Wechsler.\textsuperscript{46}
Based on the recommendations of Levine and Gordon, we also informed nonrespondents that they were among the last to return their questionnaires and that their suggestions for improving the magazine might not be included in the analyses if we didn't receive their forms soon. These researchers found that such a technique is more effective with a small, select group of recipients (such as ours) than a larger, more heterogeneous group.\textsuperscript{87}

According to the recommendations of Erdos and Robin,\textsuperscript{88} we again stated that the information recipients supplied would be treated confidentially. And based on the recommendations of Robinson,\textsuperscript{89} a note was included thanking those who had already responded but for whom we had yet to receive a completed questionnaire.

The follow-up letter was shortened based on the recommendations of Books and Hood,\textsuperscript{90} and those techniques used to personalize the original cover letter were maintained in the follow-up letter.

To further increase the effectiveness of our follow-up effort, another questionnaire and another stamped, pre-addressed return envelope were included in the follow-up mailing.

Blumberg, Fuller and Hare, Nixon, Tallent and Reiss and Heberlein and Baumgartner have documented the value of including these items in the follow-up mailing.\textsuperscript{91}

Robinson and Agisim say that adding another questionnaire "may remind the respondent to return the questionnaire
in case it has slipped his memory" and will probably draw additional responses from those recipients who may have discarded or misplaced the original questionnaire.

Return envelopes in the follow-up mailing were affixed with first-class stamps commemorating the 1984 Summer Olympic Games in Los Angeles. Similar stamps were placed on the outgoing letterhead envelopes.

Follow-up packages were sent to 462 nonrespondents (those who had not responded to the original request) on June 13, 1984. Although several researchers, including Robinson and Agisim, have shown that most responses to a mailed questionnaire will be received within two weeks after the original mailing, we decided to wait almost a month before sending out the follow-up to allow returns from out-of-state subscribers to arrive. Waiting a little longer than we might have needed also decreased the number of follow-up mailings we would have to send out and, thus, lessened mailing costs.

Editing and Analysis of Responses

Agisim and Robinson found that 90 percent of the responses that will be returned by participants in a mail survey will arrive within two weeks after the initial mailing.

Mansfield found that 90 percent of all eventual returns will be received by the end of the tenth day following the original mailing.
Also, Baur and Filion found that returns increase markedly after the follow-up is sent, then drop off just as sharply.96

Thus, we felt confident in assuming that most of the completed questionnaires we would eventually receive would be returned by the end of the sixth week after the initial mailing. As a result, the researcher began editing the returned questionnaires on July 3, 1984. Seven hundred and eighteen questionnaires, or 73 percent of those delivered to selected subscribers, had been returned by that date.

Erdos has described the need for careful and accurate editing and filing of returned survey forms:

Editing is essential in all survey work, but it is particularly important for mail surveys. Without the help of an interviewer, respondents may misread instructions, give sloppy answers and send back incomplete returns. One of the aims of careful questionnaire construction, testing . . . is to reduce these imperfections to a minimum, but the editing process will always be important to get the most out of the questionnaire.97

The editing task, according to Erdos, serves three main purposes:

1) To improve the accuracy and clarity of the answers to specific questions and eliminate inconsistent or obviously wrong or hopelessly ambiguous replies;
2) To reduce "No answers" or incomplete replies to some questions with the help of information found elsewhere on the questionnaire; and
3) To make the entries clear, consistently uniform and comprehensible to coders and keypunch operators.98
Based on this justification for editing, returned responses were edited by the researcher before they were sent for processing and analysis.

As a first step in the editing process, each questionnaire was impressed with a prepared rubber stamp and marked to denote whether the subscriber was a Montana resident or lived out of state, whether the subscriber had responded to the original mailing or the follow-up and the week after the initial mailing in which the response was received.

Questionnaires then were edited according to the recommendations of Erdos. As suggested by Erdos, in cases where the respondent had contradicted himself based on a previous response, the latter responses were corrected. For example, if a respondent had answered "yes" to question 3: "Is your current subscription a gift subscription?" and subsequently answered "(a) personal interest" to question 4: "If your current subscription is not a gift subscription, what was your main reason for subscribing to Montana Outdoors?", the respondent's answer was changed to "(d) not applicable, because your current subscription is a gift subscription."

Importantly, answers were never changed unless the respondent had made an obvious mistake or had simply failed to follow his answer through to a subsequent question. The researcher took extreme precautions to ensure that editing and subsequent corrections would not bias the results.
When all returned questionnaires had been edited, they were packaged and delivered in person to the Department of Fish, Wildlife and Parks research laboratory in Bozeman for data compilation and analysis.

Data were coded, entered into the research lab's computer, verified by a second entering run and analyzed using a "Record Star" statistical software program developed by Micropro International Corporation. This statistical program was used to generate frequency distributions and descriptive statistics for each of the response categories.

Relationships between or among two or more response variables were analyzed through cross-tabulation of responses. By doing so, the survey results would show the degree to which the values of one variable (sex of subscribers, for instance) were related to or were independent from the values of a second variable (for instance, the types of articles subscribers found most interesting).

Chapter Notes


3Seitz, p. 17.
*Erdos, p. 30.


9Stanley D. Bachrack and Harry M. Scoble, "Mail Questionnaire Efficiency: Controlled Reduction of Nonresponse," **Public Opinion Quarterly** 31 (Summer 1967): 266.


11Frank Gibson and Brett Hawkins, "Interview versus Questionnaires," **American Behavioral Scientist** 12 (September - October 1968): 11.


15Dillman and others, p. 756.

16Benson, p. 241.

17Paul Polzin, interview, December, 1983.

18William G. Cochran, **Sampling Techniques** (New York: John Wiley & Sons, 1977), pp. 75-76.


Francel, p. 90; Robin, p. 36; and Seitz, p. 18.


Ibid.

Nixon, p. 485.


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Seitz, p. 19.

53

35 Robin, p. 28.
36 Robinson, p. 35.
37 Levine and Gordon, p. 571.


40 Nixon, p. 485.
41 Francel, p. 91.
42 Erdos, "Higher Returns from Surveys," p. 31.
43 Ibid.
44 Robinson, p. 36.
45 Francel, p. 91.
46 Ibid.


48 Nixon, p. 485; and Phillips, p. 263.
49 Buse, p. 505; and Phillips, p. 263.


53 Seitz, p. 96.

55 Seitz, p. 96.
56 Buse, p. 504.
57 Blumberg, Fuller and Hare, p. 115.
60 Robin, p. 27.
61 Blumberg, Fuller and Hare, p. 115.
62 Carpenter, p. 619.
63 Hyman Goldstein and Bernard H. Kroll, "Methods of Increasing Mail Response," *Journal of Marketing* 22 (July 1957): 56; Stanley C. Plog, "Explanation for a High Return Rate on a Mail Questionnaire," *Public Opinion Quarterly* 27 (Summer 1963): 298; Robinson, p. 36; and Seitz, p. 98.
64 Plog, p. 298.
69 Levine and Gordon, p. 574.
Andrew E. Kimball, "Increasing the Rate of Return in Mail Surveys," *Journal of Marketing* 25 (October 1961): 64.


Heath, p. 37.

Nixon, p. 485.

Blumberg, Fuller and Hare, p. 115; Hensley, p. 280.

Blumberg, Fuller and Hare, p. 121.

Phillips, p. 263.

Francel, p. 89.


Stanton, p. 104.

Edgerton, Britt and Norman, p. 444.


Dillman and others, p. 747; and Ferriss, p. 248.


Levine and Gordon, p. 575.

Erdos, "Higher Returns from Surveys," p. 31; and Robin, p. 27.

Robinson, p. 36.


Robinson and Agisim, p. 424.

Ibid.

Ibid.


Erdos, Professional Mail Surveys, p. 177.

Ibid., p. 176.

Ibid., p. 177.

CHAPTER VII

RESULTS AND DISCUSSION

Although poor response rates often make the results of mail surveys unreliable, the response to this survey was encouraging. By July 27, the date returned questionnaires were delivered for computer analysis, 751 usable questionnaires of the original 988 sent had been returned. All returned questionnaires on which the respondent had answered at least one question were considered usable. Two returned questionnaires were considered unusable because the respondents had failed to answer even one question.

Another six questionnaires were returned as undeliverable. The reasons:

1--subscriber deceased
1--forwarding order expired
2--addressee unknown
1--insufficient address
1--moved, left no forwarding address.

Subtracting those questionnaires returned as undeliverable left the total sample at 982 subscribers. The response rate, then, was 76.5 percent.
Based on the understanding that responses to mailed surveys often run in the 10-to-25-percent range, the response to this survey was excellent. As suggested by Blumberg, response may have been improved by the inherent homogeneity of the group with respect to an interest in the content of the magazine.¹

The Problem of Nonresponse

Nonresponse and the resultant unrepresentativeness of results often has been cited as a major problem with mailed questionnaire surveys.

Longworth says that if a mailed questionnaire survey achieves less than a 50-percent response, "serious methodological questions can be raised as to the validity of the study."²

However, Robinson says that when replies to a mailed questionnaire reach 70 percent or better, "nonreplies have little effect on results" and the researcher can be fairly confident that the results are quite representative of the entire population studied. "In general," he continues, "it seems safe to conclude that when returns reach the neighborhood of 80 percent, reliability can be given to the findings because nonrespondents would have little effect on the total."³

Because a response rate of almost 77 percent was achieved in this survey, we might assume, as Robinson suggests, that the results are representative of subscribers
as a whole. However, as Stanton says, researchers never can be absolutely sure that the responses supplied by respondents are similar to those that would have been supplied by nonrespondents.\*"  

**Analysis of Individual Responses**  
Respondents were asked to answer the following questions by circling the letter corresponding with the appropriate response or by filling in their answers. In places where more than one answer may have applied, respondents were asked to check the appropriate boxes provided or to fill in their answers. The survey form sent to selected subscribers appears in appendix A.  

In the following discussion of results, N refers to the number of respondents who answered each individual question. Words underlined in the questions and answers listed (except for the words *Montana Outdoors*) were italicized on the survey form.  

**PART I. READING HABITS AND EDITORIAL PREFERENCES**  

**QUESTION 1 -- How did you first come to read *Montana Outdoors*? (N = 751)**  

<table>
<thead>
<tr>
<th>Answers Listed</th>
<th>No. of Responses</th>
<th>Percentage (%) of N</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) looked at a friend's or relative's copy</td>
<td>278</td>
<td>37</td>
</tr>
</tbody>
</table>
(b) picked it up at a newsstand 69 9
(c) picked it up at a Fish, Wildlife and Parks office 41 5
(d) picked it up in the library 20 3
(e) received a gift subscription 173 23
(f) picked it up at a department-sponsored meeting or exhibit 7 1
(g) other (please specify) 163 22

Response to this question indicated that Montana Outdoors is valued highly enough by subscribers that they make it available in their homes for others to read. That 37 percent of the respondents said their first exposure to the magazine was through a friend's or relative's copy speaks highly of the magazine's "first sight" appeal. Conversely, the fact that just under 3 percent of those responding first were exposed to the magazine in a library may indicate that distributing gratuity copies for display in public buildings may not be an efficient way to increase subscriptions.

The most commonly supplied answers in the "other" category were: (1) a magazine subscription order form had been supplied in a package of hunting regulations sent to license purchasers; and (2) the magazine was seen in a
doctor's or dentist's office. In retrospect, these two answer categories probably should have been included in the list of possible answers.

QUESTION 2 — How long have you been a Montana Outdoors subscriber (either through a gift subscription or a personal subscription)? (N = 751)

Summary of Responses:

<table>
<thead>
<tr>
<th>Answers Listed</th>
<th>No. of Responses</th>
<th>% of N</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) less than six months</td>
<td>39</td>
<td>5</td>
</tr>
<tr>
<td>(b) six months to two years</td>
<td>197</td>
<td>26</td>
</tr>
<tr>
<td>(c) more than two years (please specify)</td>
<td>268 (3) 6 (9) 69</td>
<td>38 (4) 42 (10)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>48 (5) 1 (11)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>32 (6) 8 (12)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12 (7) 6 (13)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22 (8) 32 (14)</td>
</tr>
</tbody>
</table>

Response to this question showed that the typical Montana Outdoors subscriber has subscribed to the magazine for 3.7 years. Coupled with the fact that most respondents indicated they were not new subscribers (only 5 percent said they had subscribed fewer than six months), this figure speaks highly of subscribers' loyalty to the magazine.

QUESTION 3 — Is your current subscription a gift subscription? (N = 751)

Summary of Responses:

<table>
<thead>
<tr>
<th>Answers Listed</th>
<th>No. of Responses</th>
<th>% of N</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) yes</td>
<td>163</td>
<td>22</td>
</tr>
<tr>
<td>(b) no</td>
<td>588</td>
<td>78</td>
</tr>
</tbody>
</table>
This question was asked to determine the percentage of subscribers who liked the magazine well enough to subscribe to it personally.

**QUESTION 4 -- If your current subscription is **not** a gift subscription, what was your main reason for subscribing to Montana Outdoors? (N = 745)**

Summary of Responses:

<table>
<thead>
<tr>
<th>Answers Listed</th>
<th>No. of Responses</th>
<th>% of N</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) personal interest</td>
<td>557</td>
<td>75</td>
</tr>
<tr>
<td>(b) so the magazine could be displayed in your office or place of business</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>(c) to obtain a copy for an organization, association, library, or other group</td>
<td>3</td>
<td>*</td>
</tr>
<tr>
<td>(d) <strong>not applicable</strong>, because your current subscription is a gift subscription</td>
<td>163</td>
<td>22</td>
</tr>
<tr>
<td>(e) other (please specify)</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>No answer</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

(*denotes less than 1%)

Responses to this question indicated, as might be expected, that most (75 percent) of those who subscribe to the magazine do so out of personal interest. The most common answers in the "other" category were to use the magazine for educating students or as a guide for art work.
QUESTION 5 — How many other people *commonly* read or look at your copy of *Montana Outdoors*?  \( N = 749 \)

Summary of Responses:

<table>
<thead>
<tr>
<th>Answers Listed</th>
<th>No. of Responses</th>
<th>% of N</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) none</td>
<td>48</td>
<td>6</td>
</tr>
<tr>
<td>(b) one</td>
<td>163</td>
<td>22</td>
</tr>
<tr>
<td>(c) two</td>
<td>255</td>
<td>34</td>
</tr>
<tr>
<td>(d) three or more</td>
<td>202 (3)</td>
<td>2 (7) 38</td>
</tr>
<tr>
<td>(b) three or more</td>
<td>31 (4)</td>
<td>3 (8)</td>
</tr>
<tr>
<td>(c) three or more</td>
<td>21 (5)</td>
<td>7 (9)</td>
</tr>
<tr>
<td>(d) three or more</td>
<td>17 (6)</td>
<td></td>
</tr>
<tr>
<td>No answer</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Computations based on responses showed that each issue of *Montana Outdoors* received by a subscriber is read by at least two other people (2.28, to be exact). Total readership of subscriber copies, then, based on a list of nearly 32,000 paid subscribers, is about 96,000. Combined with the copies sold on the newsstand (about 3,000 of each issue) and the gratuity copies distributed (about 1,800), the researcher estimates that each issue of the magazine is read by at least 100,000 people.

Perhaps more important than total readership figures, however, is the realization that for each new subscriber, total readership may be increased by three.
QUESTION 6 -- How many of these people, if any, are under 12 years of age? (N = 750)

Summary of Responses:

<table>
<thead>
<tr>
<th>Answers Listed</th>
<th>No. of Responses</th>
<th>% of N</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) none</td>
<td>604</td>
<td>81</td>
</tr>
<tr>
<td>(b) one</td>
<td>72</td>
<td>10</td>
</tr>
<tr>
<td>(c) two</td>
<td>41</td>
<td>5</td>
</tr>
<tr>
<td>(d) three or more</td>
<td>30 (3)</td>
<td>4</td>
</tr>
<tr>
<td>(please specify)</td>
<td>(4)</td>
<td></td>
</tr>
<tr>
<td>No answer</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Calculations based on responses indicated that 10.4 percent of the magazine's current readers (or one of every 10 *Montana Outdoors* readers) are under age 12. Because material presented in the magazine is not specifically designed for readers in this age group, the low percentage of readers under 12 is not surprising.

QUESTION 7 -- What do you usually do with your copies of *Montana Outdoors* when you have finished reading them? (N = 751)

Summary of Responses:

<table>
<thead>
<tr>
<th>Answers Listed</th>
<th>No. of Responses</th>
<th>% of N</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) pass them on to a friend or relative</td>
<td>166</td>
<td>22</td>
</tr>
<tr>
<td>(b) save them for future reading or reference</td>
<td>495</td>
<td>66</td>
</tr>
<tr>
<td>(c) throw them away</td>
<td>60</td>
<td>8</td>
</tr>
<tr>
<td>(d) other (please specify)</td>
<td>30</td>
<td>4</td>
</tr>
</tbody>
</table>
Responses showed that more than half of the subscribers responding (66 percent) save issues for future use. Such a high percentage of "savers" indicates that the magazine has a lasting rather than purely temporal value to the majority of subscribers.

The most common responses in the "other" category were: (1) take them to the office; (2) take them to school; and (3) cut them up for use as guides in art work.

**QUESTION 8 -- How much of Montana Outdoors do you **commonly** read? (N = 749)**

**Summary of Responses:**

<table>
<thead>
<tr>
<th>Answers Listed</th>
<th>No. of Responses</th>
<th>% of N</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) all or most of each issue</td>
<td>510</td>
<td>68</td>
</tr>
<tr>
<td>(b) all or most of some issues</td>
<td>104</td>
<td>14</td>
</tr>
<tr>
<td>(c) a little of each issue</td>
<td>115</td>
<td>15</td>
</tr>
<tr>
<td>(d) a little of some issues</td>
<td>20</td>
<td>3</td>
</tr>
<tr>
<td>(e) other (please specify)</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>No answer</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Responses indicated that most respondents (68 percent) like the editorial content of Montana Outdoors. That 82 percent of respondents said they commonly read all or most of some issues indicates the staff is doing a good job of supplying information readers find of interest.
QUESTION 9 -- If you don't read all or most of each issue, your main reason for not doing so is: (N = 724)

Summary of Responses:

<table>
<thead>
<tr>
<th>Answers Listed</th>
<th>No. of Responses</th>
<th>% of N</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) you don't have time</td>
<td>95</td>
<td>13</td>
</tr>
<tr>
<td>(b) you find the articles difficult to understand</td>
<td>2</td>
<td>*</td>
</tr>
<tr>
<td>(c) the articles sometimes don't interest you</td>
<td>117</td>
<td>16</td>
</tr>
<tr>
<td>(d) not applicable, because you do read all or most of each issue</td>
<td>505</td>
<td>70</td>
</tr>
<tr>
<td>(e) other (please specify)</td>
<td>5</td>
<td>1</td>
</tr>
</tbody>
</table>

No answer 27 (*denotes less than 1%)

Responses indicate that of those readers who don't read all or most of each issue, most (53 percent) don't because the articles "sometimes don't interest" them. The fact that only two respondents said they found the articles difficult to understand suggests that nonreading is more a problem of editorial content than language complexity.

QUESTION 10 -- How many articles in Montana Outdoors increase your interest in the subjects discussed? (N = 682)

Summary of Responses:

<table>
<thead>
<tr>
<th>Answers Listed</th>
<th>No. of Responses</th>
<th>% of N</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) all of them</td>
<td>68</td>
<td>10</td>
</tr>
<tr>
<td>(b) most of them</td>
<td>441</td>
<td>65</td>
</tr>
</tbody>
</table>
Because more than half (65 percent) of the respondents said most of the articles in *Montana Outdoors* increase their interest in the subjects discussed, the magazine can be viewed as effective educational tool. As might be expected from an audience that was assumed to be well versed in basic conservation matters, only 10 percent of respondents said all of the articles increased their interest in the subjects discussed.

The higher response rates to other questions indicate that the relatively large nonresponse to this question may have been more a function of question placement than a conscious refusal by recipients to answer the question. In retrospect, this question probably should have been placed immediately below question 9 on the survey form.

**QUESTION 11 — How interested are you in articles about the following topics?** (N = 751)

For each of the following article topics, recipients were asked to check boxes under the categories "Very Interested," "Somewhat Interested" or "Not Interested." To aid comprehension of overall response to this question, the researcher and Cada determined that a ranking of article
topics from those in which respondents were most interested to those in which they were least interested would be most revealing. Thus, when analyzing responses, a value of "1" was assigned to all topics for which the "Very Interested" box was checked, "2" to topics for which the "Somewhat Interested" box was checked and "3" to topics for which the "Not Interested" box was checked. In cases where more than one box was checked for a single topic (for example, "Very Interested" and "Somewhat Interested" in articles on big-game management), the second or "Somewhat Interested" response was eliminated. In cases where no boxes were checked for a specific article type, the respondent was assumed to have no interest in the topic and the topic was assigned a value of "3." The total number of "1," "2" and "3" values then was added for each topic to provide an overall interest value for each article type.

Because the lower value "1" was assigned to show highest respondent interest in an article type, topics with the lowest overall interest values were assumed to be those in which respondents showed the greatest interest.

Following are the results of this article interest analysis:

<table>
<thead>
<tr>
<th>Article Type</th>
<th>Overall Rank</th>
<th>Overall Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big-game management</td>
<td>1</td>
<td>1060</td>
</tr>
<tr>
<td>Outdoor photographers</td>
<td>1</td>
<td>1060</td>
</tr>
<tr>
<td>Fishing (how to/where to)</td>
<td>2</td>
<td>1061</td>
</tr>
<tr>
<td>Topic</td>
<td>Page</td>
<td>Code</td>
</tr>
<tr>
<td>------------------------------------------------------------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Hunting (how to/where to)</td>
<td>3</td>
<td>1089</td>
</tr>
<tr>
<td>Recreation access</td>
<td>4</td>
<td>1098</td>
</tr>
<tr>
<td>Endangered species</td>
<td>5</td>
<td>1113</td>
</tr>
<tr>
<td>Historical areas</td>
<td>6</td>
<td>1118</td>
</tr>
<tr>
<td>Fish and wildlife research</td>
<td>7</td>
<td>1128</td>
</tr>
<tr>
<td>Hunting/fishing regulations</td>
<td>7</td>
<td>1128</td>
</tr>
<tr>
<td>Natural area preservation</td>
<td>8</td>
<td>1130</td>
</tr>
<tr>
<td>Habitat management</td>
<td>9</td>
<td>1135</td>
</tr>
<tr>
<td>Public recreation areas/ state parks</td>
<td>10</td>
<td>1152</td>
</tr>
<tr>
<td>Land use controversies</td>
<td>11</td>
<td>1158</td>
</tr>
<tr>
<td>Camping</td>
<td>12</td>
<td>1171</td>
</tr>
<tr>
<td>Wildlife art/artists</td>
<td>13</td>
<td>1184</td>
</tr>
<tr>
<td>Trees of Montana</td>
<td>14</td>
<td>1193</td>
</tr>
<tr>
<td>Predator/prey relationships</td>
<td>15</td>
<td>1196</td>
</tr>
<tr>
<td>Conservation law enforcement</td>
<td>16</td>
<td>1204</td>
</tr>
<tr>
<td>Fisheries management</td>
<td>17</td>
<td>1233</td>
</tr>
<tr>
<td>Licensing system/ big-game drawings</td>
<td>18</td>
<td>1255</td>
</tr>
<tr>
<td>Wildflowers of Montana</td>
<td>19</td>
<td>1258</td>
</tr>
<tr>
<td>Upland game bird management</td>
<td>20</td>
<td>1259</td>
</tr>
<tr>
<td>Waterfowl management</td>
<td>21</td>
<td>1301</td>
</tr>
<tr>
<td>Conservation education programs</td>
<td>22</td>
<td>1315</td>
</tr>
<tr>
<td>Hiking/backpacking</td>
<td>23</td>
<td>1333</td>
</tr>
<tr>
<td>Boating/floating/canoeing</td>
<td>24</td>
<td>1334</td>
</tr>
<tr>
<td>Montana conservationists</td>
<td>25</td>
<td>1336</td>
</tr>
</tbody>
</table>
Nongame mammals of Montana  26  1342
Outdoor safety education  27  1352
Hunter safety education  28  1367
Nongame birds of Montana  29  1397
Nongame fishes of Montana  30  1480
Reptiles, amphibians, insects, etc.  31  1506
Cross-country skiing  32  1675
Trapping (how to)  33  1814
Snowmobiling  34  1865

To determine how well the staff of *Montana Outdoors* was addressing these interests before this survey was conducted, all issues published during the two-year period immediately before the survey (the July-August 1982 issue through the May-June 1984 issue) were analyzed to determine editorial content.

Following are the results of this analysis:

<table>
<thead>
<tr>
<th>Article Type</th>
<th>Survey Rank</th>
<th>No. of Textual Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big-game management</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Outdoor photographers</td>
<td>1</td>
<td>(two entire issues)</td>
</tr>
<tr>
<td>Fishing (how to/where to)</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Hunting (how to/where to)</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Recreation access</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Endangered species</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Historical areas</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Fish and wildlife research</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Topic</td>
<td>Page</td>
<td>Section</td>
</tr>
<tr>
<td>-------------------------------------------------------------------</td>
<td>------</td>
<td>---------</td>
</tr>
<tr>
<td>Hunting/fishing regulations</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Natural area preservation</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Habitat management</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Public recreation areas/ state parks</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>Land use controversies</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Camping</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Wildlife art/artists</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td>Trees of Montana</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>Predator/prey relationships</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Conservation law enforcement</td>
<td>16</td>
<td>5</td>
</tr>
<tr>
<td>Fisheries management</td>
<td>17</td>
<td>9</td>
</tr>
<tr>
<td>Licensing system/big-game drawings</td>
<td>18</td>
<td>1</td>
</tr>
<tr>
<td>Wildflowers of Montana</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Upland game bird management</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>Waterfowl management</td>
<td>21</td>
<td>1</td>
</tr>
<tr>
<td>Conservation education programs</td>
<td>22</td>
<td>4</td>
</tr>
<tr>
<td>Hiking/backpacking</td>
<td>23</td>
<td>1</td>
</tr>
<tr>
<td>Boating/floating/canoeing</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Montana conservationists</td>
<td>25</td>
<td>7</td>
</tr>
<tr>
<td>Nongame mammals of Montana</td>
<td>26</td>
<td>3</td>
</tr>
<tr>
<td>Outdoor safety education</td>
<td>27</td>
<td>5</td>
</tr>
<tr>
<td>Hunter safety education</td>
<td>28</td>
<td>2</td>
</tr>
<tr>
<td>Nongame birds of Montana</td>
<td>29</td>
<td>4</td>
</tr>
<tr>
<td>Nongame fishes of Montana</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Reptiles, amphibians, insects, etc.</td>
<td>31</td>
<td>1</td>
</tr>
</tbody>
</table>
This analysis showed that at the time of this survey the staff of *Montana Outdoors* was effectively designing an editorial content that reflected reader interests. In fact, articles on big-game management, which respondents said were the type in which they were most interested, were published more often than any other type of article. Similarly, devoting an entire issue each year to the work of outdoor photographers seems to meet with the approval of readers.

However, articles about hunting and fishing regulations, land-use controversies and camping, all of which ranked in the top third of the interest value scale, were absent from issues published between July-August 1982 and May-June 1984. Also, only one textual item on recreation access, which ranked fourth in the survey results, was published during this period, while items on Montana conservationists, which ranked twenty-fifth in the survey results, appeared seven times. Certainly, if reader interests are to be weighed more heavily when determining editorial content, more or fewer articles about the different topics may need to be published.
QUESTION 12 -- How often do you read the following regular sections of *Montana Outdoors?* (N = 682)

For each of the following regular sections of the magazine, recipients were asked to check boxes under the categories "Always," "Sometimes" or "Never." Responses were analyzed and sections were ranked in the same way that article topics were ranked in question 11. Those sections earning the lowest overall readership values were ranked as being the sections read most.

<table>
<thead>
<tr>
<th>Section</th>
<th>Overall Rank</th>
<th>Overall Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Catchall</td>
<td>1</td>
<td>1031</td>
</tr>
<tr>
<td>Readers Respond</td>
<td>2</td>
<td>1063</td>
</tr>
<tr>
<td>Contributors</td>
<td>3</td>
<td>1130</td>
</tr>
<tr>
<td>Book Reviews</td>
<td>4</td>
<td>1283</td>
</tr>
</tbody>
</table>

The results of this analysis were not surprising. Respondents said they read "The Catchall" most frequently, which may reflect the magazine staff's intent to fill the section with useful and informative items. The fact that the "Book Reviews" section ranked the lowest may indicate the need for the staff to reevaluate the value of including this section in each regular issue of the magazine.
QUESTION 13 -- How much do the following add to your understanding and enjoyment of Montana Outdoors articles? (N = 751)

For each of the following editorial format items, recipients were asked to check boxes under the categories "A Lot," "Some" or "Not at All." Responses were analyzed and items were ranked in the same way that article topics and regular sections were ranked in questions 11 and 12.

<table>
<thead>
<tr>
<th>Item</th>
<th>Overall Rank</th>
<th>Overall Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Photographs</td>
<td>1</td>
<td>770</td>
</tr>
<tr>
<td>Maps and charts</td>
<td>2</td>
<td>925</td>
</tr>
<tr>
<td>Line drawings (artwork)</td>
<td>3</td>
<td>1117</td>
</tr>
<tr>
<td>Layout and design</td>
<td>4</td>
<td>1169</td>
</tr>
<tr>
<td>Tables and figures (statistics)</td>
<td>5</td>
<td>1171</td>
</tr>
</tbody>
</table>

Responses to this question, like those to some of the other questions, showed the high value readers place on the quality photographs used in Montana Outdoors. They likewise show the dislike many readers share for articles packed with facts and figures. As a rule, it seems, readers like words more than numbers.

A column-inch analysis of the contents of the March-April, May-June and July-August 1984 issues showed that an average of 28 percent of each issue was devoted to photographs, an average of 55 percent to text and the remaining 17 percent, on average, to headlines, artwork, white space, tables, etc.
Based on this analysis and the values readers place on the different format items, the space devoted to tables and artwork may be about right, while the space devoted to photographs may be too little. The magazine's staff may want to use the results of this question in determining a new photograph-to-text ratio for future issues.

**QUESTION 14 -- How important are the following media in supplying natural resource or conservation information to you?** (N = 751)

Recipients were asked to rank the following media on a scale from "1" to "5" according to the importance of each in supplying them with natural-resource or conservation information. As with questions 11, 12 and 13, the lowest overall rank was assigned to the most important source of information.

<table>
<thead>
<tr>
<th>Medium</th>
<th>Overall Rank</th>
<th>Overall Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>State conservation magazines</td>
<td>1</td>
<td>1179</td>
</tr>
<tr>
<td>Newspapers</td>
<td>2</td>
<td>1657</td>
</tr>
<tr>
<td>Other outdoor or conservation magazines</td>
<td>3</td>
<td>1951</td>
</tr>
<tr>
<td>Television</td>
<td>4</td>
<td>2019</td>
</tr>
<tr>
<td>Radio</td>
<td>5</td>
<td>2446</td>
</tr>
</tbody>
</table>

The responses to this question were surprising. A majority of respondents said that state conservation magazines, including *Montana Outdoors*, provided them with
most of their conservation or natural-resource information, while television and radio, which are currently thought by media experts to have the greatest potential for disseminating information of all kinds, ranked lowest.

These results differed markedly from those of Zimmerman, who found in a 1968 study that Kansas sportsmen received most of their conservation information from television and radio programs and the least from state conservation magazines.

The researcher concludes that the general unavailability of conservation or natural-resource-oriented programming within Montana's electronic media may have led many respondents to rank print media higher. However, this does not explain the higher ranking assigned the print media by nonresident subscribers.

QUESTION 15 — Do you subscribe to any other state conservation or fish and game agency publication? (N = 751)

Summary of Responses:

<table>
<thead>
<tr>
<th>Answers Listed</th>
<th>No. of Responses</th>
<th>% of N</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) yes</td>
<td>175</td>
<td>23</td>
</tr>
<tr>
<td>(b) no</td>
<td>576</td>
<td>77</td>
</tr>
</tbody>
</table>

Responses showed that only 23 percent of the respondents subscribed to state conservation magazines other than Montana Outdoors. Based on the responses to question
14, then, it appears that most of the respondents receive most of their conservation and natural-resource information from Montana Outdoors.

QUESTION 16 -- If you answered "yes" to question 15, how would you rate Montana Outdoors in comparison?  (N = 735)

Summary of Responses:

<table>
<thead>
<tr>
<th>Answers Listed</th>
<th>No. of Responses</th>
<th>% of N</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) much better</td>
<td>33</td>
<td>4</td>
</tr>
<tr>
<td>(b) better</td>
<td>64</td>
<td>9</td>
</tr>
<tr>
<td>(c) about the same</td>
<td>56</td>
<td>7</td>
</tr>
<tr>
<td>(d) worse</td>
<td>6</td>
<td>*</td>
</tr>
<tr>
<td>(e) answered &quot;no&quot; to question 15</td>
<td>576</td>
<td>78</td>
</tr>
<tr>
<td>No answer</td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

(*denotes less than 1%)

Of those who answered "yes" to question 15 and subsequently answered this question, more than half (61 percent) rated Montana Outdoors as "better" or "much better" than the other state conservation magazines they read. Only 4 percent rated other state conservation magazines better in comparison.

As with question 10, the relatively large nonresponse to this question may have been more related to question placement than reluctance by respondents to answer it.
QUESTION 17 — In what condition do your copies of *Montana Outdoors* generally arrive? (N = 723)

Summary of Responses:

<table>
<thead>
<tr>
<th>Answers Listed</th>
<th>No. of Responses</th>
<th>% of N</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) in good shape</td>
<td>624</td>
<td>86</td>
</tr>
<tr>
<td>(b) <em>sometimes</em> tattered or torn</td>
<td>83</td>
<td>12</td>
</tr>
<tr>
<td>(c) <em>usually</em> tattered and torn</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>(d) occasionally don't receive a copy at all</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>No answer</td>
<td>28</td>
<td></td>
</tr>
</tbody>
</table>

This question examined an external factor that might affect subscriber satisfaction with the magazine. Responses, however, indicated that most mailed copies (86 percent) arrive in good condition and that the effect of this external factor on overall subscriber satisfaction is small.

Nevertheless, 10 respondents said they sometimes don't receive a copy. The mailing addresses for those 10 respondents should be checked and verified by the staff.

As with questions 10 and 16, the relatively high number of respondents who failed to answer this question may indicate a problem with question placement.
QUESTION 18 -- How might we improve Montana Outdoors for you personally?

This question gave respondents an opportunity to supply unsolicited information. That many respondents (about 60 percent) took the time and effort to write in the space provided attests to the interest many subscribers share in the content and quality of Montana Outdoors.

In general, the most common suggestions for improving the magazine were, in order of frequency:

1. Don't change a thing. We like it just the way it is.
2. Include more color photographs, especially of wildlife.
3. Include more articles on big-game management.
4. Include more articles on hunting.
5. Include more information on how harvest figures are determined and regulations are set.
6. Make the magazine larger.
7. Publish Montana Outdoors monthly.

All returned questionnaires were delivered to the editor of Montana Outdoors after analysis.
PART II. CHARACTERISTICS OF RESPONDENTS

QUESTION 19 -- You are (sex): (N = 747)

Summary of Responses:

<table>
<thead>
<tr>
<th>Answers Listed</th>
<th>No. of Responses</th>
<th>% of N</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) male</td>
<td>665</td>
<td>89</td>
</tr>
<tr>
<td>(b) female</td>
<td>82</td>
<td>11</td>
</tr>
</tbody>
</table>

That female subscribers are under-represented in the subscriber population was not surprising. What was surprising, however, was how low the percentage of female subscribers really is.

Blackfield found in her 1980 study of Wisconsin Natural Resources magazine subscribers that 15.2 percent of the subscribers were female, while the staff of the Missouri Conservationist found in its 1982 study of subscribers that 24.2 percent were female.

The results of this study suggest that the staff of Montana Outdoors might want to study ways to increase the percentage of female subscribers.

Responses to this question are shown graphically in figure 1.

Cross-tabulating the results of this question with those to question 8 (How much of Montana Outdoors do you commonly read?) suggested that sex of respondents is not a major factor in determining the amount of the magazine that subscribers commonly read.
Figure 1. Sex of Respondents. (N = 747)
The results of cross-tabulating the sex of respondents with responses to question 10 (How many of the articles in Montana Outdoors increase your interest in the subjects discussed?) also showed no discernible difference in response between males and females.

To determine the differences in article-type preferences exhibited by males and females, the results of question 19 were cross tabulated with responses to five representative article types included in question 11.

Doing so suggested that the sex of respondents did have some effect on article-type interest. Almost 69 percent of the males responding to question 11 said that they were "Very Interested" in articles about hunting, while only about 32 percent of the females answering the question so responded.

In contrast, while 65.3 percent of the males responding said they were "Very Interested" in articles about fishing, more than half (53.7 percent) of the females responding said they were similarly interested in these articles.

Also, while a difference in interest concerning fish and wildlife research and public recreation areas/state parks articles was not evident on the basis of sex, many more females said that they were "Very Interested" in articles about wildflowers (78.0 percent) than males (39.8 percent). Only 2.4 percent of the women responding
indicated that they were "Not Interested" in articles about wildflowers, while 16.4 percent of the men so responded.

QUESTION 20 -- How old are you?  \( (N = 744) \)

Summary of Responses:

<table>
<thead>
<tr>
<th>Answers Listed</th>
<th>No. of Responses</th>
<th>% of N</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) under 16</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>(b) 16-24</td>
<td>25</td>
<td>3</td>
</tr>
<tr>
<td>(c) 25-44</td>
<td>303</td>
<td>41</td>
</tr>
<tr>
<td>(d) 45-64</td>
<td>256</td>
<td>34</td>
</tr>
<tr>
<td>(e) 65 or over</td>
<td>155</td>
<td>21</td>
</tr>
<tr>
<td>No answer</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

Responses to this question showed that most of the respondents (75 percent) are in the 25-44 and 45-64 age brackets, although slightly more (7 percent) are in the 25-44 group than in the 45-64 age group.

Responses are shown graphically in figure 2.

These results are similar to those obtained by the staff of the Missouri Conservationist in its 1982 survey of subscribers.\(^8\) Blackfield, in her 1980 study of Wisconsin Natural Resources subscribers, found a slightly lower percentage of subscribers aged "65 or over."\(^9\)

The results of the present survey suggest that just over one-fifth of the magazine's subscribers are of retirement age (65) or older.
Figure 2. Ages of Respondents. (N = 744)
QUESTION 21 -- What is your highest level of education?  
(N = 745)

Summary of Responses:

<table>
<thead>
<tr>
<th>Answers Listed</th>
<th>No. of Responses</th>
<th>% of N</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) some grade school</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>(b) completed grade school</td>
<td>25</td>
<td>3</td>
</tr>
<tr>
<td>(c) some high school</td>
<td>43</td>
<td>6</td>
</tr>
<tr>
<td>(d) graduated from high school</td>
<td>162</td>
<td>22</td>
</tr>
<tr>
<td>(e) some college</td>
<td>194</td>
<td>26</td>
</tr>
<tr>
<td>(f) graduated from college</td>
<td>123</td>
<td>17</td>
</tr>
<tr>
<td>(g) some post-graduate work</td>
<td>67</td>
<td>9</td>
</tr>
<tr>
<td>(h) earned a graduate or professional degree</td>
<td>121</td>
<td>16</td>
</tr>
<tr>
<td>No answer</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

Responses indicated that most respondents (68 percent) have at least some college education and that almost half (42 percent) have graduated from college.

Responses are shown graphically in figure 3.

Because Blackfield found in her study of Wisconsin Natural Resources subscribers that about 54 percent had at least some college education, and because the study of the Missouri Conservationist showed that about 22 percent of that magazine's readers had some college training, we can reason that the fairly high educational level of respondents to this survey is not atypical of state conservation magazine subscribers.
Figure 3. Education of Respondents. (N = 745)
Cross-tabulating the responses to this question with those to question 10 (How many articles in Montana Outdoors increase your interest in the subjects discussed?) provided no indication that the educational level of respondents influences the degree to which articles increase reader interest in the subjects discussed.

**QUESTION 22 -- While in school, did you express a special interest in biology or any other natural science by taking extra courses in these fields? (N = 743)**

**Summary of Responses:**

<table>
<thead>
<tr>
<th>Answers Listed</th>
<th>No. of Responses</th>
<th>% of N</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) yes</td>
<td>304</td>
<td>41</td>
</tr>
<tr>
<td>(b) no</td>
<td>439</td>
<td>59</td>
</tr>
<tr>
<td>No answer</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

This question was asked to provide the staff of Montana Outdoors with an estimate of the number of subscribers who may have been exposed through their formal education to some of the concepts and natural-resource issues discussed in the magazine.

Responses to the question showed that a large percentage (41 percent) of those responding had taken extra courses in biology or another natural science, which suggests that many subscribers may be knowledgeable about the topics and issues discussed. The large percentage of respondents who took these courses may help to explain the low number of respondents who said, as shown by responses to
question 10, that all the articles published increase their interest in the subjects discussed.

Cross-tabulating the responses to this question with those to question 19 (sex of respondents) showed that almost an equal number of male (41 percent) and female (39 percent) respondents took extra courses in biology or another natural science.

QUESTION 23 — Which of the following best describes your principal occupation? (N = 736)

Summary of Responses:

<table>
<thead>
<tr>
<th>Answers Listed</th>
<th>No. of Responses</th>
<th>% of N</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) doctor/lawyer</td>
<td>30</td>
<td>4</td>
</tr>
<tr>
<td>(b) business executive/owner</td>
<td>110</td>
<td>15</td>
</tr>
<tr>
<td>(c) other business</td>
<td>39</td>
<td>5</td>
</tr>
<tr>
<td>(d) skilled craftsman/laborer</td>
<td>92</td>
<td>13</td>
</tr>
<tr>
<td>(e) educator</td>
<td>34</td>
<td>5</td>
</tr>
<tr>
<td>(f) government worker</td>
<td>36</td>
<td>5</td>
</tr>
<tr>
<td>(g) scientist, engineer, technician</td>
<td>60</td>
<td>8</td>
</tr>
<tr>
<td>(h) farmer/rancher</td>
<td>59</td>
<td>8</td>
</tr>
<tr>
<td>(i) clerical</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>(j) sales</td>
<td>28</td>
<td>4</td>
</tr>
<tr>
<td>(k) student</td>
<td>18</td>
<td>2</td>
</tr>
<tr>
<td>(l) homemaker</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>(m) retired</td>
<td>135</td>
<td>18</td>
</tr>
</tbody>
</table>
Responses showed that almost one-fifth (18 percent) of all respondents are retired. They also showed that few are students (2 percent) or consider themselves to be homemakers (2 percent). Further, farmers and ranchers constitute about 8 percent of those who responded.

Responses are shown graphically in figure 4.

Zimmerman found in his 1968 study of Kansas sportsmen that about 9 percent of the Kansas Fish and Game magazine subscribers who responded to his survey were farmers and ranchers and that about 10 percent of all respondents were retired.\textsuperscript{12} Blackfield found in her 1980 study of Wisconsin Natural Resources subscribers that about 4 percent were farmers and ranchers and that just over 19 percent of all respondents were retired.\textsuperscript{13}

Comparing the results of this question to the results of those studies leads the researcher to believe that the principal occupations of Montana Outdoors subscribers are quite similar to those of other state conservation magazine subscribers.

The most commonly listed answers in the "Other" category, in order of frequency, were:

1. truck driver
2. outdoor photographer/free-lance writer
3. law enforcement officer
4. artist.
Figure 4. Occupations of Respondents. (N = 736)
QUESTION 24 — You **commonly participate** in which of the following outdoor activities? \( (N = 751) \)

The following response categories were ranked according to the total frequencies with which respondents said they took part in the individual activities. Questionnaire recipients were asked to place a check mark in the boxes preceding each activity in which they commonly participate.

The total number of check marks preceding each activity was added to indicate overall respondent participation. Doing so showed the following:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Total Frequency</th>
<th>% of N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fishing</td>
<td>623</td>
<td>83</td>
</tr>
<tr>
<td>Hunting</td>
<td>542</td>
<td>72</td>
</tr>
<tr>
<td>Camping</td>
<td>506</td>
<td>67</td>
</tr>
<tr>
<td>Outdoor photography</td>
<td>371</td>
<td>49</td>
</tr>
<tr>
<td>Boating/float/canoeing</td>
<td>365</td>
<td>49</td>
</tr>
<tr>
<td>Hiking/backpacking</td>
<td>327</td>
<td>44</td>
</tr>
<tr>
<td>Bird watching</td>
<td>228</td>
<td>30</td>
</tr>
<tr>
<td>Skiing (cross-country or downhill)</td>
<td>197</td>
<td>26</td>
</tr>
<tr>
<td>Archery and/or bow hunting</td>
<td>124</td>
<td>17</td>
</tr>
<tr>
<td>Snowmobiling</td>
<td>93</td>
<td>12</td>
</tr>
<tr>
<td>Trapping</td>
<td>66</td>
<td>9</td>
</tr>
<tr>
<td>(Other)</td>
<td>47</td>
<td>6</td>
</tr>
</tbody>
</table>
Activities most commonly listed in the "Other" category were waterskiing, swimming, nature walks and windsurfing.

Responses are shown graphically in figure 5.

QUESTION 25 -- Did you purchase any type of hunting or fishing license in 1983? (N = 751)

Recipients were asked to indicate (by marking either a "yes" or a "no" box) whether they purchased a hunting or fishing license in 1983. Since only those responses marked "yes" were used for analysis, in retrospect the "no" category should not have been included on the questionnaire.

Analyzing responses showed the following:

<table>
<thead>
<tr>
<th>Type of License</th>
<th>No. of &quot;Yes&quot; Responses</th>
<th>% of N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hunting</td>
<td>490</td>
<td>65</td>
</tr>
<tr>
<td>Fishing</td>
<td>571</td>
<td>76</td>
</tr>
</tbody>
</table>

Responses are shown graphically in figure 6.

As might be expected based on the responses to question 24, responses to this question showed that slightly more respondents are active fishermen than hunters.

To determine the percentages of male and female respondents who bought these licenses, responses to this question were cross-tabulated with responses to question 19 (sex of respondents). Doing so showed that 78.5 percent of
Figure 5. Outdoor Activities of Respondents. (N = 751)
Figure 6. Respondents Who Purchased Hunting or Fishing Licenses in 1983. (N = 751)
all male respondents bought fishing licenses during 1983, while only 56.1 percent of the female respondents bought such licenses during that year. It also showed that 70.2 percent of the male respondents bought hunting licenses during 1983, while only 24.4 percent of the female respondents bought these licenses.

QUESTION 26 — You are a member of: (N = 751)

Recipients were asked to place a check mark in the boxes preceding all groups or organizations of which they were members. As with questions 24 and 25, check marks were totaled to indicate overall respondent membership in groups and organizations.

Totaling all responses showed the following:

<table>
<thead>
<tr>
<th>Group or Organization</th>
<th>Total Frequency</th>
<th>% of N</th>
</tr>
</thead>
<tbody>
<tr>
<td>A national sportsman's organization (NRA, Ducks Unlimited, etc.)</td>
<td>266</td>
<td>35</td>
</tr>
<tr>
<td>A local sportsman's club</td>
<td>150</td>
<td>20</td>
</tr>
<tr>
<td>The National Wildlife Federation</td>
<td>122</td>
<td>16</td>
</tr>
<tr>
<td>A national conservation group (Sierra Club, Audubon Society, etc.)</td>
<td>85</td>
<td>11</td>
</tr>
<tr>
<td>The Montana Wildlife Federation (or another state affiliate)</td>
<td>52</td>
<td>7</td>
</tr>
</tbody>
</table>
A local, regional or statewide conservation group 45 6
Other conservation-oriented groups 36 5

The fact that only about a third of the respondents were members of a national sportsman's organization and that only about one-fifth were members of a local sportsman's club was surprising considering the large percentage of hunters and fishermen in the respondent population. The results of this question may again reemphasize the importance of making Montana Outdoors the best information and education source it can be—subscribers may get little information from other sporting or conservation groups.

The most common response in the "Other conservation-oriented group" category was that the respondent belonged to a professional organization, such as the Wildlife Society or the Society of American Foresters.

Responses are shown graphically in figure 7.

PART III: ADMINISTRATIVE QUESTIONS

Questions 27, 28 and 29 and corresponding response categories were stamped onto all returned questionnaires and completed by the researcher. All were questions deemed unsuitable for the questionnaire but useful for analyzing results.
Figure 7. Membership of Respondents in Conservation-Oriented Organizations. (N = 751)
QUESTION 27 -- Resident or nonresident subscriber?

Because the researcher hoped to determine the percentage of Montana subscribers and nonresident subscribers responding as well as the ways in which responses to particular questions differed between the two groups, this question was included. Residency status was determined by the administrative code number printed on the upper left-hand corner of each questionnaire.

Computer analysis showed that 361 of the 751 usable questionnaires returned (or 48 percent) were returned by resident subscribers. Another 389 (or 52 percent of the 751 questionnaires) were returned by nonresidents. The researcher was unable to determine the residency status of one respondent because the code number had been removed.

Since the results of this analysis showed close to a 50/50 ratio between resident subscribers and nonresident subscribers, the researcher believed that cross-tabulating these results with responses to several other questions might reveal differences in characteristics and article preferences related to residency status.

Cross-tabulating the results of this question with responses to question 11 (article preference) showed that the interests of resident and nonresident subscribers toward articles about hunting, fishing and fish and wildlife research were similar. This analysis also showed, as might
be expected, that resident respondents were more interested in articles about wildflowers of Montana than were nonresident respondents. Articles about public-recreation areas and state parks drew basically similar interest responses from residents and nonresidents. Residents, however, tended to favor those articles a little more than did nonresidents.

Cross-tabulating the results of this question with responses to question 19 (sex of respondents) showed that the proportion of resident and nonresident males in the respondent population (48 percent and 52 percent, respectively) is identical to the proportion of residents and nonresidents in the total respondent population. Doing so also showed that the number of resident female subscribers responding to the survey (41) was identical to the number of nonresident female subscribers responding (41). Thus, all of the results of cross-tabulations based on sex should hold true for the entire respondent population.

Cross-tabulating the results of this question with responses to question 25 (Did you purchase any type of hunting or fishing license in 1983?) showed similarly that the residency status of respondents did not affect responses to question 25. Analysis indicated that of the 490 respondents who said they bought hunting licenses in 1983, 246 (or about 50 percent) were resident subscribers and 243 (or about 50 percent) were nonresident subscribers. Also,
of the 571 respondents who said they bought fishing licenses in 1983, 290 (or 51 percent) were residents and 280 (or 49 percent) were nonresidents.

QUESTION 28 - Original or follow-up respondent?

This question was included to indicate ways in which the responses of those who returned the original questionnaire might differ from those who returned questionnaires enclosed with the follow-up package.

Analysis of returned questionnaires showed that 557 respondents (or 74 percent of those who eventually returned completed questionnaires) returned the original questionnaire and that 194 (or the remaining 26 percent) returned the follow-up questionnaire.

However, the results could not be used for analysis because many of those who received follow-up packages errantly or purposefully returned the original questionnaire. Because analysis of the following question could have provided much the same, if not better, information on the response differences between original (early) and follow-up (late) respondents, in retrospect this question probably should not have been included in the study.

QUESTION 29 -- Weeks in which completed questionnaires were received.

This question was to determine ways in which responses from early respondents differed from those of late
respondents. Because Edgerton, Britt and Norman, and Kivlin found that late respondents were more like nonrespondents than early respondents, the researcher theorized that analyzing the differences between the answers of early and late respondents might provide an indication of potential nonresponse bias. Phillips has discussed the benefits of doing so.

To facilitate this analysis, returned questionnaires were stamped with the date on which they were received. Questionnaires received on a single day were subsequently batched by the researcher and imprinted with a rubber stamp to provide answer categories for administrative questions 27, 28 and 29.

Six response categories—a, b, c, d, e and f—were provided for question 29. These categories were assigned to represent the weeks following the original mailing in which completed questionnaires were received.

Since the original questionnaire was mailed on May 17, 1984, completed questionnaires received during the first week after the initial mailing (May 21-25) were delineated by circling the letter "a." The letters "b" through "e" were circled, respectively, for questionnaires received during the next four weeks. Questionnaires received after the fifth week (from June 25 on) were denoted by circling the letter "f."
Analyzing the results of this effort showed that the inverted bell-shaped pattern of response typical in a well-designed, two-wave mail survey was achieved. Three hundred and two completed questionnaires, or 40 percent of those that would eventually be returned, were received during the first week. In the second week, 146 more were received, and in the third week 65 were received. In the fourth week, the week in which follow-up packages were mailed, only 31 questionnaires were received. But in the fifth week, due to the obvious effect of the follow-up, 100 questionnaires were received. In the next five weeks, an additional 107 completed questionnaires were returned.

To determine if the responses from early respondents differed markedly from those of late respondents, the degree of interest in several article topics (see question 11, page 67) of those respondents from whom completed questionnaires were received during the first week after the original mailing were compared to those of respondents from whom questionnaires were received during the final five-week acceptance period.

This analysis showed that no major difference in article interests existed between those who responded early and late. As a result, the researcher feels confident in assuming that the results of this survey may be fairly representative of Montana Outdoors subscribers as a whole. Nevertheless, he emphasizes that any inference toward
representativeness of responses is just an assumption on his part and that the results of this survey actually represent only those who responded.

Chapter Notes


5Donald E. Zimmerman, "Determination of the Sources of Conservation Information and Characteristics of Selected Kansas Sportsmen" (Master's thesis, Kansas State University, Manhattan, 1968), p. 58.


8Ibid.

9Blackfield, p. 25.


11Missouri Department of Conservation, p. 2.

12Zimmerman, p. 30.

13Blackfield, p. 27.

CHAPTER VIII

SUMMARY AND CONCLUSIONS

Summary

This study has shown that when developed carefully and implemented properly, an audience survey can yield valuable information about the characteristics, reading habits and editorial preferences of a state conservation magazine's subscribers. This study also has shown that when well designed, a mailed questionnaire can achieve good response rates from the audience of a publication in which the subscribers are thought to share an interest. Through the use of an original questionnaire package and one follow-up mailing, a response rate of 76.5 percent was achieved.

Results of this survey suggest that the typical Montana Outdoors subscriber is male, between ages 25 and 44, has received some college training and is an active hunter, fisherman and camper. He prefers articles about big-game management, outdoor photography and "how to/where to" features about hunting and fishing. He shows an interest in articles about recreation access, endangered species, fish
and wildlife research and the ways in which hunting and fishing regulations are set. Articles about cross-country skiing, trapping and snowmobiling are the least preferred.

The survey results show that the typical subscriber receives the magazine out of personal interest, reads all or most of each issue, saves copies for future reading or reference and has been a subscriber for more than three and a half years.

They show also that he was first exposed to the magazine through a friend or relative, that he finds most of the articles published in the magazine increase his interest in the subjects discussed and that he likes to read the "Catchall" section the most and the "Book Reviews" section the least. High-quality, color photographs, particularly of wildlife and Montana's environment, provide him with much enjoyment.

Survey responses indicated that each issue of Montana Outdoors mailed to a subscriber is read by at least two other people, that only about one in 10 of these readers is under 12 and that each issue is viewed by about 100,000 people.

Nearly an equal number of Montana residents and out-of-state readers subscribe to the magazine.
Conclusions

The first commandment to the writer and editor is to be read—not just noted, looked at or dipped into, but read. And in this age of frenetic activity—of burgeoning businesses, social reform, outdoor sports and proliferating publications—to be read is no mean feat. The writer or editor must pursue his readers' interests with single-minded dedication all the way from choice of subject to delivery of the magazine into the readers' hands.¹

Determining editorial preferences and reader interests is imperative if a magazine is to realize its full potential, and the success of this study proves that an audience survey is an effective way of doing so.

Yet audience surveys should not be viewed as a panacea by a magazine's editor and staff because, in truth, they are not. They should be used only as a supportive tool, as a source of information on which the editor and staff can base some of their important editorial decisions.

Palmer sees the harm in using audience studies as the sole basis for determining editorial content:

... In a democracy the majority of voters (customers, readers) rules, and the politician or editor who ignores that fact does so at the peril of his own career. Yet, at the same time, the public wants to be fed, wants to be taught, to be challenged.²

Certainly, to effectively teach, lead and challenge, an editor also must use his own judgment in determining a suitable editorial content for a magazine.
Blackfield states this clearly:

... Editors must use not only readership and audience studies [in determining an appropriate editorial content] but their own professional judgment. An editor who follows only what readers are interested in will not present new, different information.

Without presenting new enlightening information, the editor of a state magazine will not be achieving one of the primary goals of the true conservation periodical--informing and educating the readers in natural resource matters.

Another drawback to basing editorial content strictly on the results of audience surveys is that they tell the editor little about the interests of nonreaders.

Palmer says:

... Readership studies can tell you what your present readers prefer, [but] they cannot tell you anything about the interests and needs of the people who don't take your magazine but whom you wish did.

Kearl states that "a description of nonreaders could be one of the most useful parts of a readership study." He says that such a description might "suggest that certain types of content, directed specifically at the kinds of persons most often found in the nonreader group, might help to reduce the nonreader percentage."

The results of this survey showed that two audience groups in particular--women and children under 12--are probably under-represented in the subscriber or readership rolls. Women represent 50.1 percent of Montana's population and just over 51 percent of the national population. Children under 12 constitute about 19 percent of Montana's
residents and about 18 percent of the national population. Nevertheless, women and children under 12 make up only about 11 percent and 10 percent, respectively, of the magazine's subscriber and readership roles.

If the editor of Montana Outdoors were to follow Kearl's implied suggestion and include articles of particular interest to those reader groups, their percentage of the total audience might be increased.

For example, to increase the percentage of women in the population of principal subscribers, articles of particular interest to women might be published more often. Because question 11 (see page 67) showed that 82 percent of the women subscribers responding were "very interested" in articles on wildflowers, while only 40 percent of the male subscribers so responded, a few more articles on wildflowers of Montana might draw more women subscribers.

Increasing the number or frequency of articles of interest to children might produce similar results. Because children will be an editor's future readers, Laycock urges state conservation editors to address as much of their editorial content as possible to the needs of children. Future audience surveys or readership studies might determine how these needs could best be met.

Inherent in the use of any type of audience survey is the realization that the tool may and, if developed carefully, probably will provide the editor with a better understanding of the audience he serves. Every budding
writer or editor learns in one of his first journalism classes that knowing your readers—your audience—is essential. To truly know your readers, you must know their characteristics, the ways in which they read publications and, perhaps most important, their editorial likes and dislikes.

In this regard, audience surveys can be an exceedingly valuable aid for editors because, as Palmer points out, "knowing what subjects will interest your readers—deciding what to print and what to leave out—is, by all odds, the greatest challenge in editing." 8

Chapter Notes


2Ibid., p. 20.


4Palmer, p. 30.


8Palmer, p. 20.
APPENDIX A:
The Survey Form
Dear Subscriber:

You can help us improve MONTANA OUTDOORS by answering the following questions. We hope these questions will be answered by you, the principal subscriber, and not by someone else.

Because each of these questions is important to us, please try to answer all of them. In most cases you can answer a question simply by circling the letter (a, b, c, d, etc.) corresponding with the appropriate answer. In other cases, where more than one answer may apply, you will be asked to place a check in the boxes provided or to fill in your answers. All of your answers will remain strictly confidential.

Thank you for your time and assistance with this survey. We will do our best to make your answers work for you.

PART I

Please help us by supplying some information about your subscription to MONTANA OUTDOORS, the way in which you read the magazine and your likes and dislikes concerning its content.

1. How did you first come to read MONTANA OUTDOORS?
   (a) looked at a friend’s or relative’s copy
   (b) picked it up at a newsstand
   (c) picked it up at a Fish, Wildlife and Parks office
   (d) picked it up in the library
   (e) received a gift subscription
   (f) picked it up at a department-sponsored meeting or exhibit
   (g) other (please specify):

5. How many other people commonly read or look at your copy of MONTANA OUTDOORS?
   (a) none
   (b) one
   (c) two
   (d) three or more (please specify):

2. How long have you been a MONTANA OUTDOORS subscriber (either through a gift subscription or a personal subscription)?
   (a) less than six months
   (b) six months to two years
   (c) more than two years (please specify if known):

6. How many of these people, if any, are under 12 years of age?
   (a) none
   (b) one
   (c) two
   (d) three or more (please specify):

3. Is your current subscription a gift subscription?
   (a) yes
   (b) no

7. What do you usually do with your copies of MONTANA OUTDOORS when you have finished reading them? (Please circle only one)
   (a) pass them on to a friend or relative
   (b) save them for future reading or reference
   (c) throw them away
   (d) other (please specify): ______________________

4. If your current subscription is not a gift subscription, what was your main reason for subscribing to MONTANA OUTDOORS?
   (a) personal interest
   (b) so the magazine could be displayed in your office or place of business
   (c) to obtain a copy for an organization, association, library, or other group
   (d) not applicable, because your current subscription is a gift subscription
   (e) other (please specify): ______________________

8. How much of MONTANA OUTDOORS do you commonly read? (Please circle only one)
   (a) all or most of each issue
   (b) all or most of some issues
   (c) a little of each issue
   (d) a little of some issues
   (e) other (please specify): ______________________
9. If you don't read all or most of each issue, your main reason for not doing so is:

(a) you don't have time
(b) you find the articles difficult to understand
(c) the articles sometimes don't interest you
(d) not applicable, because you do read all or most of each issue
(e) other (please specify):

10. How many articles in MONTANA OUTDOORS increase your interest in the subjects discussed?

(a) all of them
(b) most of them
(c) a few of them
(d) other (please specify):

11. How interested are you in articles about the following topics? (Please check ☐)

<table>
<thead>
<tr>
<th>Topic</th>
<th>VERY INTERESTED</th>
<th>SOMewhat INTERESTED</th>
<th>NOT INTERESTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hunting (how to/where to)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Fishing (how to/where to)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Trapping (how to)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Big game management</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Upland game bird management</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Waterfowl management</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Fisheries management</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Habitat management</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Fish and wildlife research</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Conservation law enforcement</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Hunting/fishing regulations</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Licensing system/big game drawings</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Land use controversies</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Conservation education programs</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Hunter safety education</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Endangered species</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Predator/prey relationships</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Natural area preservation</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Nongame mammals of Montana</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Nongame fishes of Montana</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>Nongame birds of Montana</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Wildflowers of Montana</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Trees of Montana</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Reptiles, amphibians, insects, etc.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Camping</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Hiking/backpacking</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Boating/float/fishing/canoeing</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>Cross-country skiing</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Snowmobiling</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>Outdoor safety education</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Recreation access</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Public recreation areas/state parks</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Historical areas</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Wildlife art/artists</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Montana conservationists</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Outdoor photographers</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Others (please specify):</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td></td>
<td>☐</td>
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</tr>
</tbody>
</table>
12. How often do you read the following regular sections of MONTANA OUTDOORS? (Please check ☐)

- the “Catchall” section
- the “Readers Respond” section
- the “Book Reviews” section
- the “Contributors” section

Always ☐ Sometimes ☐ Never ☐

13. How much do the following add to your understanding and enjoyment of MONTANA OUTDOORS articles? (Please check ☐)

A Lot ☐ Some ☐ Not at All ☐

Photographs ☐ Line drawings (artwork) ☐ Layout and design ☐ Tables and figures (statistics) ☐ Maps and charts ☐

14. How important are the following media in supplying natural resource or conservation information to you? (Please number in order of importance, with “1” being the source from which you receive the most information, and “5” the source from which you receive the least.)

☐ Television ☐ Radio ☐ Newspapers ☐ State conservation magazines (including MONTANA OUTDOORS) ☐ Other outdoor or conservation magazines ☐ Other sources (please specify): ____________________________

16. If you answered “yes” to question 15, how would you rate MONTANA OUTDOORS in comparison?

(a) much better ☐ (b) better ☐ (c) about the same ☐ (d) worse ☐ (e) answered “no” to question 15 ☐

17. In what condition do your copies of MONTANA OUTDOORS generally arrive?

(a) in good shape ☐ (b) sometimes tattered or torn ☐ (c) usually tattered and torn ☐ (d) occasionally don’t receive a copy at all ☐

18. How might we improve MONTANA OUTDOORS for you personally? ____________________________________________________________

PART II

And finally, please, a little information about you—our subscriber—to help us classify the information you have provided. We reiterate, this information will remain strictly confidential.

19. You are: [principal subscriber]

(a) male ☐ (b) female ☐

20. How old are you?

(a) under 16 ☐ (b) 16-24 ☐ (c) 25-44 ☐ (d) 45-64 ☐ (e) 65 or over ☐

(over please)
21. What is your highest level of education?
(a) some grade school
(b) completed grade school
(c) some high school
(d) graduated from high school
(e) some college
(f) graduated from college
(g) some post-graduate work
(h) earned a graduate or professional degree

22. While in school, did you express a special interest in biology or any other natural science by taking extra courses in these fields?
(a) yes (b) no

23. Which of the following best describes your principal occupation? (Please circle only one)
(a) doctor/lawyer
(b) business executive/owner
(c) other business
(d) skilled craftsman/laborer
(e) educator
(f) government worker
(g) scientist, engineer, technician
(h) farmer/rancher
(i) clerical
(j) sales
(k) student
(l) homemaker
(m) retired
(n) other (please specify):

24. You commonly participate in which of the following outdoor activities? (Please check ☑)
☐ hunting
☐ fishing
☐ trapping
☐ archery and/or bowhunting
☐ hiking/backpacking
☐ camping
☐ outdoor photography
☐ bird watching
☐ skiing (X-country or downhill)
☐ snowmobiling
☐ boating/float/canoeing
☐ others (please specify):

25. Did you purchase any type of hunting or fishing license in 1983? (Please check ☑)
YES ☐ NO ☑

26. You are a member of: (Please check ☑)
☐ the Montana Wildlife Federation or another state wildlife federation
☐ the National Wildlife Federation
☐ a local sportsman’s club
☐ a national sportsman’s organization (NRA, Ducks Unlimited, Trout Unlimited, etc.)
☐ a national conservation group (Sierra Club, Audubon Society, etc.)
☐ a local, regional or statewide conservation group (Northern Plains Resource Council, Cabinet Resource Group, etc.)
☐ other conservation-oriented groups (please specify):

Thank you very much for your help. Please fold and return your questionnaire in the stamped envelope provided.
APPENDIX B:

The Cover Letter
May 14, 1984

Ms. Vera Bingaman
1613 Southlawn Dr.
Des Moines, IA  50315

Dear Subscriber:

We need your help!

The Montana Department of Fish, Wildlife and Parks would like to make MONTANA OUTDOORS the best magazine it can be. As a valued reader of the magazine, you can help us reach this goal by completing the enclosed questionnaire right now and returning it in the stamped envelope provided. Filling out the questionnaire should take only a few minutes of your time.

The questionnaire has been designed to give us a better idea of who you are, what you like and dislike about MONTANA OUTDOORS in its present form, and how we can tailor the contents of the magazine to better meet your needs. The information you and other subscribers provide will be analyzed by computer at the department's research laboratory in Bozeman and compiled as part of a master's degree program at the University of Montana. The results of this survey will be summarized in a future issue of MONTANA OUTDOORS.

Please note that your name was drawn at random from a list of our subscribers and that no attempt will be made to associate individual subscribers with specific answers. Also, please be assured that the code number at the top of your questionnaire is there solely for administrative reasons. In other words, your responses will remain strictly confidential.

Because only a few subscribers are being asked to assist us in this effort, we cannot overemphasize the importance of receiving your completed questionnaire. Returning your questionnaire will not only help to ensure the success of our survey, it will also let us know how you personally feel about MONTANA OUTDOORS and the ways in which we might improve it for you.

Thank you very much for your time and help. If you have any questions about this survey, please feel free to contact me.

Sincerely,

Dave Books
Editor
APPENDIX C:
The Return Envelope
MONTANA OUTDOORS SURVEY RESEARCH
Montana Dept. of Fish, Wildlife and Parks
Research Park Building
Box 5, Montana State University
Bozeman, MT 59717
APPENDIX D:

The Follow-up Cover Letter
June 4, 1984

Ms. Vera Bingaman
1613 Southlawn Dr.
Des Moines, IA 50315

Dear Subscriber:

We still need your help!

About three weeks ago a questionnaire seeking advice on ways we might improve MONTANA OUTDOORS was mailed to a small, randomly selected group of our subscribers. Many of those who received questionnaires have already helped us out by returning them. Our records show, however, that we have not yet received a completed questionnaire from you.

Because only a limited number of subscribers are being asked to assist us in this way, your personal response is extremely important if our efforts are to succeed.

If, by chance, this reminder and your completed questionnaire have crossed in the mail, please accept our sincere thanks for your help. However, if you have somehow misplaced your questionnaire or if you just haven't found the time to complete it, won't you please take a few minutes right now to do so and drop it in the mail? We have enclosed another questionnaire and stamped return envelope for your convenience.

So that your suggestions for improving the magazine can be included in our decision-making process, please return your completed questionnaire as soon as you can. Of course, all of your responses will remain strictly confidential.

Thank you very much for your cooperation and assistance.

Sincerely,

[Signature]

Dave Books
Editor
BIBLIOGRAPHY

Books


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