DETERMINATION OF THE SOURCES OF CONSERVATION INFORMATION AND CHARACTERISTICS OF SELECTED KANSAS SPORTSMEN

by

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Foreword

Both wildlife and journalism have played an important part in the history of North America. Fur traders followed the rivers across North America in search of fur, opening the country for settlement. Soon after early towns were established, printers had set up their shops and had begun producing the first printed publications.

Journalism was well established in the United States by 1900, but conservation was just beginning. Citizens were beginning to realize America's natural resources were rapidly being depleted. The first federal legislation was the Lacey Act of 1900 to reduce market hunting by prohibiting interstate commerce of illegally taken game (Leopold, 1933).

Conservation may be defined as utilizing ecology for man's long term benefits.

Brennan (1967) said:

> Conservation is man's recognition of his interdependence with his environment, and all things in it, and his feeling of responsibility for this environment and its maintenance. All things which most of us call conservation are the things man does as a result of his recognition of this interdependence.

Conservation can have a broad approach as defined above or a narrow view, concerned with an area of natural resources.

In the narrow view, conservation is concerned with a part of the proper management of fishes, of wildlife, of minerals, of forests, of water and of air. Management of each can be called conservation.

CHAPTER 1

Introduction and Literature Review

Conservation journalism can be both broad and narrow. In the broad view conservation journalism is a specialized field of science writing. In the narrow view the conservation journalist writes about a specific natural resource research and management.

Conservation journalism narrows the gap between the research findings and the knowledge of the general public. Shomon (1952) warned that scientists are fully aware of our resource status, but the American people are not.

Conservation journalism must present the fundamentals of ecology.

Carson (1962) warns, quoting Albert Schweitzer, "Man has lost his capacity to foresee and to forestall. He will end by destroying the earth."

This is the challenge to conservation journalists.

Shaw (1947) recognized the role of the conservation journalist:

> There is one great weapon the country has to fight this destruction-- of natural resources, specifically-the forests the free press, and its powerful influence upon the opinions of every age group in the United States. Education is the answer, and there can be no better text books for the instruction in conservation of our natural resources than the newspapers. They are the future of our people and the land they live on. That hope can be a promise, and if the press wishes, it can be a promise fulfilled.

Conservation journalism can attempt to make man more aware of the delicate balance of his environment--before that environment has been damaged irreparably.

In addition to being a specialized field of science writing, conservation journalism is also a specialized discipline of outdoor writing.

Gartner (1966) includes the conservation story in one section of the Outdoor Writers Instruction Manual.

Both conservation education and conservation public relations are closely related to conservation journalism. All should explain to all ages the fundamentals of conserving natural resources. Research in outdoor writing, conservation education and conservation public relations can be useful in conservation journalism.

Most conservation journalism research has measured the number of news releases, the number of column inches and magazine content. Few research projects have studied audiences of conservation journalism materials.

Wade (1948), discussing wildlife education, said that it is extremely difficult to get indicators or signposts that show clearly whether or not educational efforts are getting results.

The same can be said of conservation journalism.

Few individuals have recognized the need for an audience evaluation of the use of the conservation journalism materials. John (1954) said two-way communication is needed:

> We must improve the quality of our message by using words that are likely to be understood--by talking in every-day language of our listeners. But, more than that, we should concentrate on listening to what they have to say. Conversations in the barbershop or bar room, letters to the editor in our daily newspapers, questions asked by letter or telephone--all these are 'feedback' clues on how much our audience understands us.

Schoenfeld (1957) said:

> When the practice of wildlife management learns to invest as much time and talent in the study and application of public relations as in the study and application of ecology, we can expect some progress on Leopold's 'back forty'.

The conservation journalist can take a lesson from the fundamental practices of public relations. Cutlip and Center (1952) stressed that the

first step in public relations is fact-finding and that extensive feedback is essential to an effective communication program. Conservation journalism has had little feedback.

Breth (1948) reported that successful wildlife management does not depend on the commission, nor the sportsmen, nor the legislature, but directly on the public and its knowledge of problems and programs.

Few research studies in conservation journalism or public relations of natural resources have yielded useful information.

Some conservation magazines have tested their audiences. National Wildlife magazine, using a questionnaire, studied its audience, their opinions and impressions of the magazine content and their likes and dislikes (Anonymous, 1965).

Based on a questionnaire, Outdoors Oklahoma magazine researched its audience's opinion of the magazine articles, content, desired articles, and selected demographic characteristics (Anonymous, 1968).

Few graduate degree studies in conservation journalism have been completed. I think a probable reason for limited research in this area is the lack of funds. Shaw (1947) studied the literature of forestry conservation but placed little emphasis on the other areas of conservation journalism.

Meyer (1950) surveyed the conservation magazines published by all states in 1948, while the content, makeup and readability of state fish and game and conservation department magazines was compared by Kilgore (1954). Using an open ended questionnaire, Ward (1957) determined the wildlife educational information desired by Colorado sportsmen from state game managers. He then wrote a booklet about Colorado wildlife.

Shomon (1959) surveyed the governmental agencies preparing conservation

communication materials. Stamm and Ross (1964) concluded that conservation opinions cannot be understood in terms of magnitude or amount of conservation knowledge, but must be understood in relationship to other considerations of the problem.

Gilbert (1964) reviewed the public relations efforts and methods of governmental agencies while a change in conservation attitudes following a conservation education program was demonstrated by George (1967).

After having reviewed both the conservation and journalism literature, I was concerned that conservation journalism or related research might have been overlooked in the literature review.

To determine if any conservation communication research was underway or had been completed letters were written to departments, schools or colleges of journalism accredited by the American Council for Education in Journalism (Anonymous, 1967b) and universities or colleges listed in the Conservation Directory (Anonymous, 1967c) as offering course work or degrees in natural resources.

Few additional studies were found.[1]

Johnson (1963), in a masters thesis at Iowa State University, analyzed the writing style of John Madson, a conservation writer for Olin Mathierson Company. Shiner (1966), in a masters thesis at the University of Florida.

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[1] Universities reporting no conservation communication theses or research were: University of Illinois, Louisiana State University, University of Michigan, University of Montana, University of Oklahoma, Pennsylvania State University, Southern Illinois University and Texas A & M University.

West Virginia University will begin a forestry-journalism major in the fall of 1968. The University of Arizona, Rutgers, The State University; and San Jose State College did not have graduate programs in journalism.

No answers were received from Michigan State University, the University of Tennessee, Oklahoma State University or the University of Minnesota.

prepared a development plan for the Welala Outdoor Education and Research Center. Alex Edelstein (pers. comm) reports Toshio Nishi (1967), University of Washington, studied conflict, resolution and communication on the dispute between the United States and Japan over the Northwest salmon fishing.

Erickson (1967), Ohio State University, is studying attitudes toward wildlife and mass communication. Under director Charles Damback, studies at Ohio State University have evaluated the conservation education materials available from governmental agencies, industries and businesses (Damback, pers. comm).

The sociological and attitude studies of sportsmen cannot be overlooked in a literature review. They contain useful findings for the conservation journalism researcher.

Petrele (1967), using a 200-question questionnaire to study Ohio hunters, reported that individuals who felt that stocking was the best way to have more game animals were also those who had not read any books on wildlife. Studying the nonrespondents to Petrele's (1961) pre-test, Yuhas (1962) reported a significant difference between respondents and nonrespondents. No differences were observed in reading wildlife books and conservation attitudes, but respondents were more likely to have an occupation requiring reading and writing, higher incomes, smaller families, membership in a sportsmen's club and frequently hunted with a companion.

Studying the sociology of deer hunters in Pennsylvania, Lefes (1953) found a statistically significant difference between hunting, social characteristics and the number of hunting magazines read. The "average" hunter read 2.4 hunting magazines.

Mooty (1967), studying the characteristics of 100 license agents of the Colorado Game, Fish and Parks Department, asked, "Other than the mail

you receive from the Department, how do you get most of your information about the Department?" Of those responding: 32 per cent received information from the wildlife conservation officers; 30 per cent from the newspapers; 19 per cent from personal mail only; 5 per cent by telephone; 4 per cent from the magazine, Colorado Outdoors; 4 per cent from television; 1 per cent from commissioners; and 5 per cent receive no additional information.

The Colorado Game, Fish and Parks Department uses all media to inform the public of wildlife and fisheries conservation and management practices (Gilbert, 1964).

The literature review has found few conservation journalism studies that have investigated the audiences. No completed studies were found to give writers an understanding of characteristics of conservation journalism audiences.

This study was undertaken to determine some characteristics of a part of the conservation journalism audience. It is primarily concerned with the fish and wildlife management aspects of conservation communication.

In this study, answers to five questions were sought:

1. What is the frequency of use of conservation mass media?

2. What are some of the demographic characteristics of the individuals to be sampled?

3. What are some selected conservation attitudes of the selected audience?

4. Is there a significant statistical relation within the mass media used, within the demographic characteristics and within conservation attitudes?

5. Is there a significant relation between the mass media used, demographic characteristics and conservation attitudes?

CHAPTER II

Methods

The Universe

Several audiences of the conservation mass media might be considered before selecting one to study. Selecting populations to study depends upon: (1) limited research funds, (2) no known research completed on conservation attitudes and conservation mass media uses, (3) availability of populations to pre-test, (4) a sample adequate to produce data for statistical analyses.

Some researchers have discussed audiences or publics of the conservation programs.

Cutlip and Center (1965) suggested that public relations practitioners use the interest and common bonds of groups as channels of communication. An expression of conservation interest by an individual might be joining an organization, subscribing to a publication or attending special programs.

Since conservation is closely related to both conservation public relations and education, the publics of these two disciplines may be useful in conservation journalism research.

Breth (1948) said there are five uniformed publics concerning conservation:

> (1) the general public, (2) the great mass sportsmen, (3) the national and state legislatures, (4) newspaper and magazine editors and writers, (5) and to a certain extent, members of the conservation commissions.

Erickson (1967), studying wildlife and television attitudes, is considering several sources of persons to be interviewed. Those:

> (1) registering at business establishments where persons

> obtain needs for their leisure, (2) previously interviewed or contacted at county fairs in the initial phase of the study, (3) on membership lists of organizations, (4) personally contacted, (5) in a structured sample of persons previously interviewed in television research.

Kline (1966) suggested public relations efforts seek out and listen to the opinions of the grass roots on natural resources matters.

Some researchers have reported difficulties in obtaining data. Ward (1957) received only 50 returns from a single mailing of an open-ended questionnaire sent to 500 Colorado hunters.

Lefes (1953) confirmed his hypothesis that hunters are selectively rather than randomly chose from the population.

Researchers, using sociological methods, suggested that interest in the topic helps to increase responses (Edgerton et al., 1947; Clausen and Fort, 1947).

Considering that publics have bonds of interest and this interest might increase responses, I sampled a selected group of sportsmen. Two lists, the membership of the Kansas Wildlife Federation and the mailing list of the Kansas Fish and Game magazine were available.

The Questionnaire

Basic sociological research methods include the interview and the mail questionnaire. Each has advantages and disadvantages.

The interview can be used only within a limited geographic area and requires more time per respondent than the mailed questionnaire (Benison, 1946).

Benison (1946) listed several advantages to the mail questionnaire:

> (1)...less cost than the personal interview survey, (2)... easy to cover a large geographic area, (3)...answers on certain

> subjects might be more reliable than the personal interview, (4)...no chance of an interviewer intentionally or unintentionally biasing the answers as may happen if interviewers are not properly instructed or the right interviewing situation established.

Benison (1946) reported the disadvantages included:

> (1)...it is difficult to get a cross section of the people, (2)...A proportionally greater number of replies may come from those biased in one direction, (3)...only a limited number of questions may be asked.

Well recognized also is the likelihood of bias caused by differences between respondents and nonrespondents. Respondents tend to be better educated, have higher incomes, be more mobile and to over-represent majority rather than minority groups.

Non-response to mail questionnaires is a problem. Ferber (1948-49) said that if the return is between 0 and 50 per cent, there is danger of securing a nonrepresentative sample of the population and the highest rate of return on attitude surveys is obtained from those whose opinions are the most extreme. If a group is homogenous, there is little problem with nonrespondents (Ferber, 1948-49). In a homogenous group, the size of the return will not vary the results (Clausen and Ford, 1949).

Despite the limitations of the mail questionnaire, its potential has been recognized. Benison (1946) said that mail surveys can prove valuable in many research problems, if the limitations are known and the results properly understood and correctly interpreted.

Since interviews were not feasible, the mail questionnaires were used for this conservation journalism research. It permitted many individuals to be sampled, at low cost per individual and use of two populations.

Construction of the Questionnaire

Goode and Hatt (1952) recommend the researcher background himself thoroughly on the subject before formulating the questions. I relied on my wildlife and fisheries background and a continuing study of conservation public relations for background.[1]

The first step in formulating the questionnaire was to develop the areas that might be investigated (Goode and Hatt, 1952). The areas considered were the mass media sources of conservation information, the demographic characteristics of the individuals sampled, membership in organizations, conservation knowledge or attitudes, time devoted to outdoor recreation and equipment used.

Fifty prepared questions were re-evaluated and those covering the frequency of outdoor activities and equipment owned were eliminated to reduce the time required to answer the questionnaire. Thirty-four questions were submitted to the major professor for evaluation and criticism.

Changes in phrasing and terminology were recommended to reduce the possibility of influencing the respondent.

The conservation mass media questions were designed listing specific shows, newspaper columns, magazines and books. The respondent was asked to check the frequency of use. This approach was not used since the number of shows, presentations, columns, magazines or books that would need to be

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1. The author obtained a B.S. in wildlife biology from Kansas State University in June, 1966. While completing work for a masters degree, he prepared four unpublished papers to meet course requirements: (1) The Public Relations Aspects of the Management of the Kansas Deer Herd, (2) A Public Relations Field Study of the Kansas Wildlife Federation, (3) A Report of the Production of the NEBRASKAland magazine, published by the Nebraska Game, Forestation and Parks Commission, (4) History of the Kansas Fish and Game magazine, published by the Kansas Forestry, Fish and Game Commission.

listed would be too large.

The revised mass media questions were developed using a rating scale (Appendix II, Pre-test Questionnaire). The questions were designed to have the respondent select a choice from the scale responses to allow for variation.

Goode and Hatt (1952) recommend that a self-administering questionnaire should not take over 30 minutes to complete and the less time required, the better.

The 34 question schedule was designed to increase responses and to reduce the production costs. It was administered to two Kansas State University seniors.[2] One completed it in five minutes; the other, in nine minutes.

Preparation of the questionnaire may influence responses. Goode and Hatt (1952) suggested the questionnaire be printed. However, the masters degree theses based on questionnaire in the Department of Technical Journalism at Kansas State University used mimeographed questionnaires which are favored by both time and finances so the questionnaire for this study was mimeographed.

The Covering Letter

A covering letter included with each questionnaire can increase responses. Goode and Hatt (1952) recommend a covering letter include:

> (1) who is sponsoring the study, (2) why the study is being conducted, (3) why should the individual bother to answer the questionnaire, (4) directions as to how to complete the questionnaire and (5) a guarantee of anonymity.

The covering letter followed their recommendations and was mimeographed

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2. One was an animal husbandry major and the other was a natural resources conservation major.

on Department of Technical Journalism letterhead (Appendix II, Pre-test Covering Letter).

The Packet

A questionnaire packet of: (1) stamped envelope, addressed to the person sampled, (2) a stamped return addressed envelope for the completed questionnaire, (3) an individually signed covering letter and (4) a numbered questionnaire.

Three of six postal scales used to weigh the packets showed slightly over one ounce. To insure that no questionnaire packets arrived postage due, twelve cents postage was used. A postage due questionnaire likely would have reduced responses and perhaps brought criticism to the University.

Sampling Procedure

A sample of 500 sportsmen was used; 250 names were drawn at random from the 3100 member roster of the Kansas Wildlife Federation[3] and a systematic sample of 250 names was drawn from the mailing list of the Kansas Fish and Game magazine.[4] The names of 32 Kansas Wildlife Federation officers were also obtained.

The 83 members of the Riley County Fish and Game Association were selected to pre-test the questionnaire. Because Riley County Fish and Game Association

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3. Each Kansas Wildlife Federation member was given a number. Two hundred fifty numbers were sampled at random from a table of random numbers (Arkin and Colton, 1963).

4. The first 44 names were number and a random number between 1 and 44 was sampled. Every 44th name after the name was sampled.

members are members of the Kansas Wildlife Federation a replacement name was drawn, using additional random numbers, each time one of their names was drawn for the final mailing.

To facilitate handling, the names of each individual sampled was printed on a 3 by 5 inch note card. Each was given a code number on the back of the questionnaire.

The Pre-Test

Fifty-nine members, 71 per cent, of the Riley County Fish and Game Association returned the pre-test questionnaire.

The returned questionnaires were evaluated as suggested by Goode and Hatt (1952) for:

> (1) lack of order in answers, (2) all or none responses, (3) a high proportion of don't know or don't understand responses, (4) many qualifications, (5) a high proportion of refusals.

Both the questionnaire and the covering letter were revised as pre-testing indicated.

The revised questionnaire was submitted to the author's graduate committee for evaluation. Members recommended adding open-ended questions. Following the questions on conservation mass media, the respondent was asked to list his favorite (Appendix II, Final Questionnaire). An additional question was added asking the respondent if he received a conservation newsletter. Following the note of appreciation, the respondent was asked an optional question on what additional information he would like to receive.

In the covering letter the guarantee of anonymity was changed to strictly confidential.

To simplify sorting, the questionnaires were mimeographed on green, yellow, blue and brown paper. Members of the Kansas Wildlife Federation

were mailed yellow questionnaires on the first mailing and blue questionnaires on the second mailing. Those on the Kansas Fish and Game magazine mailing list were mailed green questionnaires on the first mailing and brown questionnaires on the second mailing.

Mailing and Responses

The first questionnaire packets were mailed February 16, 1968. On March 1 the second questionnaire packets were mailed to all nonrespondents to the first questionnaire.

As each response was received, the Kansas Wildlife Federation respondents were sorted from the Kansas Fish and Game magazine respondents. Using the identification code number, each response was plotted by hometown on a Kansas map divided into the three pheasant hunting zones (Anonymous, 1967d). The zone was recorded with other data from the respondents. The Federation respondents of the first mailing were plotted on a map, and the Kansas Fish and Game magazine respondents were plotted on another map. The procedure was repeated on two additional maps for responses to the second mailing (Appendix III, Figs. 6, 7, 8 and 9).

Recording the date of single day responses could not have been used for the data analysis with the IBM 360 computer since the maximum number of groupings would have been nine. The responses were divided into eight three day periods. All responses received in the first three days were analyzed as one unit, responses received in the next three days were analyzed as the second unit. That procedure was repeated for seven units. The eighth unit or period was expanded to include five days.

Preparation for Statistical Analysis

Each questionnaire returned was given a consecutive number as the data was transferred to IBM cards, for Contigency Chi square analysis.[5] The Contingency Chi square statistic shows any relationships between response to any two questions as relationship between the five responses to question one and the five responses to question two (Fryer, 1964).

To simplify the discussion of characteristics or responses to each question, a shortened characteristics was prepared (Appendix I, Table 51).

A maximum of 1521 Chi squares could be tested using each question versus every other question. Question one, Listens to radio, was compared with questions or characteristics 2 through 39. Question two, Watches television, was compared with questions or characteristics 3 through 39. That procedure was followed until all possible characteristics were paired. Duplicate Chi squares were not repeated. The total number of Chi squares run was 741.

To determine the favorite conservation program, show, newspaper column, magazine, or book, subquestions one through five and seven were tabulated.

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5. The Contingency Chi square program used was developed by the Department of Statistics and Computer Science, Kansas State University for the IBM 360 computer.

CHAPTER III

Results and Discussion

Percentage Responses

The questionnaires were returned during four weeks following the first mailing. At the end of the second week, the nonrespondents were mailed another questionnaire packet. By March 19, respondents had returned 363 usable questionnaires (Table 1). Criteria for a usable questionnaire was that at least the questions on mass media sources of information had been answered and the code number was still readible. The returns by three day periods are given in Table 1.

Table 1. Returns by three day periods, Sundays excluded.

	Kans. Wild. Fed.		Kans. Fish & Game Mag.		Total	
Responses	No.	%	No.	%	No.	%
1. Feb. 19, 20, 21	49	28.6	76	39.6	125	34.5
2. Feb. 22, 23, 24	36	21.1	50	26.0	86	23.7
3. Feb. 26, 27, 28	16	9.4	26	13.5	42	11.6
4. Feb. 29, March 1, 2	12	7.0	8	4.2	20	5.5
5. March 4, 5, 6	27	15.8	17	8.9	44	12.1
6. March 7, 8, 9	18	10.5	8	4.2	26	7.2
7. March 11, 12, 13	8	4.7	5	2.6	13	3.5
8. March 14-19	5	2.9	2	1.0	7	1.0
Total	171*		192*		363*	

* Corrected for three duplicate answered questionnaires.

Of the 532 questionnaires mailed, 363 or 68.5 per cent were usable. Returns from the Kansas Wildlife Federation totaled 171 of 282 or 60.5 per cent, but 22 responses were from 32 specially selected officers. Only 149 of the 250 randomly sampled Kansas Wildlife Federation members returned the questionnaire.

The Kansas Fish and Game magazine respondents, 192 of 250 or 76.5 per cent, returned the questionnaires more quickly, 76 or 39.6 per cent during the first time period compared with 40 or 28.6 per cent of the Kansas Wildlife Federation respondents.

One hundred fifty-two of the 192 usable Kansas Fish and Game responses were received in the first nine days compared with 101 of the 171 usable Kansas Wildlife Federation responses. These results conflict with Yuhas (1962). In a study of the nonrespondents of Petrele (1961), Yuhas (1962) reported membership in a sportsmen's club was much higher among respondents than among nonrespondents.

Thirty-seven returned questionnaires were not usable for reasons given in Table 2.

Table 2. Reasons questionnaires could not be used in data analyses.

Reason	Number
Returned unanswered	3
Respondents said they lacked adequate knowledge to answer the questionnaire	6
Addressee deceased	11
Questionnaire not delivered	12
Code numbers crossed out	2
Previously answered questionnaire	3
Total	37

To simplify discussion, a two or three word phrase was given to each questionnaire or characteristics of the data (Appendix I, Table 51).

The statistically significant relationships of the comparison of List and all other characteristics are given in Table 3. Five statistically significant comparisons were detected at .05 level, 1 at .01 level and 3 at .001 level. This demonstrates a probable relationship between the List from which the name was selected and the manner the respondent answered the questions. Of the nine statistically significant relationships, six could have been expected. Kansas Fish and Game respondents receive a conservation magazine quarterly which they must request in writing. The characteristics Views presentations, Membership, Organization officer and Receives mimeographed letter could have been expected to be statistically significantly higher for the Kansas Wildlife Federation members. They receive a monthly newsletter, are members of an organization that has regular monthly meetings and has officers.

Table 3. Statistically significant relationship of List and selected characteristics.

Characteristics compared	Significance[a] levels
List vs. Reads conservation magazine	*
" vs. Requested agency information	**
" vs. Views presentations	*
" vs. Membership	***
" vs. Organization officer	*
" vs. Work of biologist	*

[a] * Statistically significant at .05 level
** " " " .01 level
*** " " " .001 "

Table 3-Continued.

Characteristics compared	Significance levels[a]
List vs. Fish pollution kills	*
" vs. Receives mimeographed letter	***
" vs. Date	***

[a] * Statistically significant at .05 level
** Statistically significant at .01 level
*** Statistically significant at .001 level

The statistically significant relationship of Date compared with List is due to the different response rate of the two populations in returning the questionnaires.

Percentage Response to Questions

Respondents to the Kansas Wildlife Federation are referred to as Federation respondents or population; those of the Kansas Fish and Game magazine, as Magazine respondents or population.

The percentage responses to each question are given in individual tables grouped under three major areas, mass media sources of conservation information, demographic characteristics and conservation attitudes. Conclusions are applied only to respondents.

Table 4 lists responses to the question on radio listening habits.

Talbe 4. Response to: How often do you listen by radio to a conservation, outdoor recreation, hunting or fishing program?

	Kans. Wild. Fed.		Kans. Fish & Game Mag.		Total	
Response	No.	%	No.	%	No.	%
1. Never	38	22.2	23	12.0	61	16.8
2. Seldom	31	18.2	38	19.8	69	19.0
3. Occasionally	51	29.8	70	36.5	121	33.3
4. Often	39	22.8	52	27.1	91	25.0
5. Always	10	5.8	7	3.6	17	4.7
No response	2	1.2	2	1.0	4	1.1
Total	171		192		363	

Slightly over half, 52.7 per cent, of the combined populations occasionally, often or always listened by radio to a conservation, outdoor recreation, hunting or fishing program.

Responses to television viewing habits (Table 5) show television more popular than radio; 16.8 per cent "never" and 19 per cent "seldom" listened to radio programs while 1.3 per cent "never" and 9.1 per cent "seldom" viewed television. A greater percentage view conservation, hunting, fishing or related television programs than listen to similar radio programs.

Table 5. Response to: How often do you watch a television show on conservation, outdoor recreation, hunting or fishing?

	Kans. Wild. Fed.		Kans. Fish & Game Mag.		Total	
Responses	No.	%	No.	%	No.	%
1. Never	5	2.9	0	0.0	5	1.4
2. Seldom	17	9.9	16	8.4	33	9.1
3. Occasionally	59	34.5	65	33.8	124	34.2

Table 5-Continued.

Responses	Kans. Wild. Fed. No.	%	Kans. Fish & Game Mag. No.	%	Total No.	%
4. Often	76	44.5	91	47.5	167	46.0
5. Always	13	7.6	18	9.3	31	8.5
No response	1	.6	2	1.0	3	.8
Total	171		192		363	

Responses to the reading habits of conservation or natural history magazines were given in Table 6.

Table 6. Responses to: How often do you read a conservation or natural history magazine?

Responses	Kans. Wild. Fed. No.	%	Kans. Fish & Game Mag. No.	%	Total No.	%
1. Never	31	18.2	18	9.4	49	13.5
2. Seldom	40	23.4	41	21.4	81	22.4
3. Occasionally	49	28.6	68	35.4	117	32.2
4. Often	35	20.4	42	21.8	77	21.2
5. Always	7	4.1	19	9.9	26	7.2
No response	9	5.3	4	2.1	13	3.5
Total	171		192		363	

The Magazine population receives a conservation magazine quarterly while the Federation population may not. Differences between the two groups on Reads conservation magazine were detected statistically significant at the .05 level.

Only 9.4 per cent of the Magazine respondents "never" read a conservation

magazine compared with 18.2 per cent of the Federation respondents. Availability of the conservation magazine undoubtedly influences its being read.

Sporting magazines as considered in this study are those publishing hunting, fishing, camping and related outdoor participation activities. Responses to the sporting magazine reading habits are given in Table 7.

Table 7. Responses to: How often do you read a hunting, fishing, camping, or outdoor recreation magazine?

	Kans. Wild. Fed.		Kans. Fish & Game Mag.		Total	
Responses	No.	%	No.	%	No.	%
1. Never	9	5.3	6	3.1	15	4.1
2. Seldom	22	12.9	20	10.4	42	11.6
3. Occasionally	52	30.4	63	32.8	115	31.7
4. Often	53	31.0	71	36.9	124	34.2
5. Always	31	18.1	31	16.1	62	17.1
No response	4	2.3	1	.5	5	1.3
Total	171		192		363	

Response to reading an outdoor column or page in a newspaper are listed in Table 8.

Table 8. Responses to: How often do you read a conservation, outdoor recreation, hunting or fishing column or page in a newspaper?

	Kans. Wild. Fed.		Kans. Fish & Game Mag.		Total	
Responses	No.	%	No.	%	No.	%
1. Never	15	8.8	12	6.3	27	7.4
2. Seldom	19	11.1	29	15.1	48	13.2
3. Occasionally	61	35.7	53	27.6	114	31.4

Table 8-Continued.

Responses	Kans. Wild. Fed. No.	%	Kans. Fish & Game Mag. No.	%	Total No.	%
4. Often	47	27.4	60	31.2	107	29.5
5. Always	26	15.2	38	19.8	64	17.7
No response	3	1.8	0	0.0	3	.8
Total	171		192		363	

Television shows newspaper outdoor columns or pages and sporting magazines may be used to present conservation information. They were used more frequently than conservation magazines by respondents. The newspaper column may serve as a current method of presenting current conservation information to the sportsmen.

Information and assistance are available from all game commissions on written request. Table 9 lists the frequency of requests by Federation respondents and by Magazine respondents. A written request is required to receive the Kansas Fish and Game magazine.

Table 9. Responses to: How often have you requested conservation literature or information from a state game commission or federal agency controlling natural resources in the last year?

Responses	Kans. Wild. Fed. No.	%	Kans. Fish & Game Mag. No.	%	Total No.	%
1. Never	89	52.0	62	32.5	151	41.9
2. Once a year	40	23.4	67	35.1	107	29.6
3. Two to five times a year	31	18.1	42	21.8	73	20.1

Table 9-Continued.

Responses	Kans. Wild. Fed. No.	%	Kans. Fish & Game Mag. No.	%	Total No.	%
4. Six or more times a year	7	4.1	9	4.7	16	4.3
No response	4	2.3	11	5.8	15	4.1
Total	171		191*		362*	

* One care data transferred incorrectly, lack of IBM time precluded correction.

Two populations were detected to be statistically different in requesting information (Table 3). More Magazine respondents requested information and requested it more often than did the Federation respondents.

Only 24.4 per cent of the combined populations requested information two or more times a year. Several individuals responding to an open-ended question, wanted to know how to obtain conservation information. They did not know information could be obtained from governmental agencies.

Detailed information also may be obtained from natural history and conservation books. Table 10 lists the conservation book reading habits of the respondents.

Table 10. Responses to: How many conservation, natural history or natural resources books have you read in the last five years?

Responses	Kans. Wild. Fed. No.	%	Kans. Fish & Game Mag. No.	%	Total No.	%
1. None	105	61.5	98	51.0	203	56.0
2. One	11	6.4	14	7.3	25	6.9

Table 10-Continued.

Responses	Kans. Wild. Fed. No.	%	Kans. Fish & Game Mag. No.	%	Total No.	%
3. Two to five	27	15.8	47	24.5	74	20.3
4. Six to eleven	12	7.0	10	5.2	22	6.1
5. Twelve or more	9	5.2	11	5.7	20	5.5
No response	7	4.1	12	6.3	19	5.2
Total	171		192		363	

Fifty-six per cent of all respondents had not read one conservation book in the last five years; 42.2 per cent had not read a sporting book in the last five years. Some respondents, listing their favorite, confused sporting and conservation books. Respondents who read books were more likely to read a sporting book than a conservation book. Table 11 lists the responses to the question on reading sporting books.

Table 11. Responses to: How many books on hunting, fishing, outdoor recreation have you read in the last five years?

Responses	Kans. Wild. Fed. No.	%	Kans. Fish & Game Mag. No.	%	Total No.	%
1. None	83	48.6	70	36.5	153	42.2
2. One	11	6.4	13	6.8	24	6.6
3. Two to five	38	22.2	54	28.0	92	25.3
4. Six to eleven	14	8.2	19	9.9	33	9.1

Table 11-Continued.

Responses	Kans. Wild. Fed. No.	%	Kans. Fish & Game Mag. No.	%	Total No.	%
5. Twelve or more	20	11.7	24	12.5	44	12.1
No response	5	2.9	12	6.3	17	4.7
Total	171		192		363	

Usually a sporting organization has a monthly meeting with conservation or outdoor recreation presentations. A statistically significant difference between the List and Views presentations was detected at the .05 level (Table 3). A higher percentage of Federation respondents could be expected to view presentations. Table 12 lists viewing presentations habits.

Table 12. Responses to: How many conservation, outdoor recreation, hunting or fishing movies, lectures, or slide shows have you seen or attended in the last year? (Do not include those you may have seen on television.)

Responses	Kans. Wild. Fed. No.	%	Kans. Fish & Game Mag. No.	%	Total No.	%
1. None	73	42.7	88	46.0	161	44.5
2. One to three	58	34.0	82	43.0	140	38.7
3. Four to eight	21	12.3	13	6.8	34	9.4
4. Nine or more	18	10.5	7	3.7	25	6.9
No response	1	.5	1	.5	2	.5
Total	171		191		363	

Only 22.8 per cent of the Federation respondents viewed four or more presentations while 11.5 per cent of the Magazine respondents viewed four or more a year.

Table 13 through 23 list demographic characteristics of the respondents.

Youth groups have a potential for learning conservation. Table 13 shows the percentage of the respondents who had been members of a youth group.

Table 13. Responses to: Were you or are you a member of a youth group such as Boy Scouts, Girl Scouts, 4-H, Future Farmers or similar group?

	Kans. Wild. Fed.		Kans. Fish & Game Mag.		Total	
Responses	No.	%	No.	%	No.	%
1. Yes	72	42.2	83	43.2	155	42.7
2. No	95	55.5	104	54.2	199	54.8
No response	4	2.4	5	2.6	9	2.5
Total	171		192		363	

Of the combined populations, 42.7 per cent were members or are members of a youth group.

Percentages of respondents in each age class are given in Table 14.

Table 14. Responses to: How old are you?

	Kans. Wild. Fed.		Kans. Fish & Game Mag.		Total	
Responses	No.	%	No.	%	No.	%
1. Under 5	0	0	0	0	0	0
2. 5-17	1	.6	8	4.1	9	2.4
3. 18-44	63	36.8	70	36.4	133	36.6
4. 45-64	80	46.8	82	42.8	162	44.8
5. 65 and over	27	15.8	32	16.7	59	16.2
Total	171		192		363	

The Statistical Abstract of the United States (Goldfield, 1967) lists the age groupings for Kansas as: 10.1 per cent under 5 years, 26 per cent between 5 and 17 years, 32.9 per cent between 18 and 44 years, 20 per cent

between 45 and 64 years and 11 per cent 65 and over years old.

The under five class was included in the question so the responses could be compared with population statistics. A higher percentage of the total respondents than the general population were in the age classes 18 to 44, 45-64 and 65 and over.

Percentages of respondents in each sex are listed in Table 15.

Table 15. Responses to: You are? 1. Male 2. Female

	Kans. Wild. Fed.		Kans. Fish & Game Mag.		Total	
Responses	No.	%	No.	%	No.	%
1. Male	158	92.5	185	96.9	343	94.8
2. Female	12	7.0	6	3.1	18	4.9
No response	1	.5	0	0	1	.3
Total	171		191*		362	

* Error on data card, should total 192, lack of IBM time precluded correction.

Table 16 gives the percentages of the marital status of respondents.

Table 16. Responses to question on marital status.

	Kans. Wild. Fed.		Kans. Fish & Game Mag.		Total	
Responses	No.	%	No.	%	No.	%
1. Single	10	5.8	23	12.0	33	9.0
2. Married	152	88.9	159	82.9	311	85.8
3. Divorced	2	1.2	5	2.6	7	1.9
4. Separated	0	0	0	0	0	0
5. Widowed	7	4.1	4	2.0	11	3.0
No response	0	0	1	.5	1	.3
Total	171		192		363	

The percents with indicated number of children are given in Table 17.

Table 17. Responses to: If married, how many children do you have?

Responses	Kans. Wild. Fed. No.	Kans. Wild. Fed. %	Kans. Fish & Game Mag. No.	Kans. Fish & Game Mag. %	Total No.	Total %
1. None	17	10.0	17	8.8	34	9.4
2. One	26	15.1	36	18.7	62	17.0
3. Two	47	27.5	54	28.1	101	27.9
4. Three	41	24.0	33	17.2	74	20.2
5. Four	13	7.7	13	6.8	26	7.2
6. Five or more	18	10.5	16	8.3	34	9.4
No response	9	5.2	23	12.0	32	8.8
Total	171		192		363	

Income levels of respondents are listed in Table 18.

Table 18. Responses to: Your approximate income level is?

Responses	Kans. Wild. Fed. No.	Kans. Wild. Fed. %	Kans. Fish & Game Mag. No.	Kans. Fish & Game Mag. %	Total No.	Total %
1. Under $3,000	12	7.0	19	9.9	31	8.5
2. $3,000-4,999	15	8.8	17	8.9	32	8.8
3. $5,000-6,999	24	14.0	29	15.1	53	14.6
4. $7,000-9,999	41	24.0	45	23.4	86	23.7
5. $10,000-14,999	27	15.8	36	18.7	63	17.4
6. $15,000 and over	27	15.8	12	6.3	39	10.7
No response	25	14.6	34	17.7	59	16.3
Total	171		192		363	

The Statistical Abstract of the United States (Goldfield, 1967) lists

income for individuals in the north central states as 14 per cent under $3,000, 15 per cent between $3,000 and 4,999, 19 per cent between $5,000 and 6,999, 26 per cent between $7,000 and 9,999, 19 per cent between $10,000 and 14,999, and 7 per cent $15,000 and over. A higher percentage of respondents had incomes in the middle and highest brackets than individuals in the north central states.

Each respondent was asked to list his occupation. The responses were grouped into seven classes for analyses. The professionals included doctors, veterinarians, dentists, lawyers and ministers. White collar workers included technical workers, managers, clerical and sales workers, teachers and engineers. Blue collar workers included craftsmen, foremen and related workers, operative and service workers. Students included grade school, high school and college students. The other classes were self-employed, retired and farmer-ranchers. Table 19 lists occupations by percentages.

Table 19. Responses to: What is your present occupation?

	Kans. Wild. Fed.		Kans. Fish & Game Mag.		Total	
Responses	No.	%	No.	%	No.	%
1. Professional	7	4.1	10	5.2	17	4.7
2. White collar	61	35.7	72	37.5	133	36.7
3. Blue collar	50	29.2	58	30.2	108	29.8
4. Students	4	2.3	12	6.3	16	4.4
5. Self-employed	4	2.3	0	0	4	1.1
6. Retired	18	10.6	20	10.4	43	10.5
7. Farmer-rancher	25	14.7	18	9.4	43	11.8
No response	2	1.1	2	1.0	4	1.1
Total	171		192		363	

Membership in organizations may influence use of conservation media. A statistical significant difference in comparison of Membership and the List was detected at the .001 level (Table 3). Respondents of the Federation were automatically members of a sportsmen's group while no membership requirement was a prerequisite for Magazine respondents. Table 20 lists responses regarding membership in conservation orientated groups.

Table 20. Responses to: Which statement characterizes your membership?

1. A member of the National Wildlife Federation, Kansas Wildlife Federation and local sportsmen's group or conservation orientated group.
2. A member of only the Kansas Wildlife Federation and a local sportsmen's group or conservation orientated group.
3. A member of only a local sportsmen's group or conservation orientated group.
4. A member of only the National Wildlife Federation.
5. Not now a member of either the National Wildlife Federation, Kansas Wildlife Federation, local sportsmen's group or conservation orientated group.
6. Don't understand the question.

	Kans. Wild. Fed.		Kans. Fish & Game Mag.		Total	
Responses	No.	%	No.	%	No.	%
1.	34	19.8	6	3.1	40	11.0
2.	50	29.2	7	3.6	57	15.7
3.	26	15.2	32	16.7	58	16.0
4.	7	4.1	8	4.1	15	4.1
5.	40	23.4	108	56.4	148	40.8
6.	5	3.0	14	7.3	19	5.2
No response	9	5.3	17	8.8	26	7.2
Total	171		192		363	

Unexpectedly, 42.7 per cent of the Federation respondents did not indicate that they were members of the Kansas Wildlife Federation. The question erred by requiring respondents to answer a multiple response to indicate their membership in the Kansas Wildlife Federation. Oral pre-

testing might have shown the confusion, so the "and" could have been changed to "or", or the three part question changed to three separate questions.

The two populations apparently overlapped because 20.4 per cent of the Magazine respondents indicated that they were associated with the Federation.

Being an officer in a conservation organization may influence an individual's views and uses of conservation mass media. Percentages listed in Table 21 shows percentages who indicated they were officers.

Table 21. Responses to: Are you or have you been an officer or committee member in the National Wildlife Federation, Kansas Wildlife Federation, local sportsmen's group or conservation orientated group?

	Kans. Wild. Fed.		Kans. Fish & Game Mag.		Total	
Responses	No.	%	No.	%	No.	%
1. Yes	30	17.6	14	7.3	44	12.2
2. No	136	80.0	172	90.0	308	85.4
3. Currently candidate	1	.6	2	1.1	3	.8
No response	3	1.8	3	1.6	6	1.6
Total	170*		191		361*	

* Cards mispunched, lack IBM time precluded correction.

Thirty-two officers or former officers of the Federation were sent the questionnaire in addition to the 500 persons sampled from the two populations. Of the 30 Federation officers who responded, 22 were from the specially selected group of 32 Federation officers.

The formal education level completed by respondents is listed in Table 22.

Table 22. Responses to: What is the highest grade you completed in school?

Responses	Kans. Wild. Fed. No.	%	Kans. Fish & Game Mag. No.	%	Total No.	%
1. Some grade school	3	1.8	3	1.6	6	1.7
2. Grade school	16	9.4	20	10.4	36	9.9
3. Some high school	24	14.0	24	12.5	48	13.2
4. High school	64	37.4	62	32.3	126	34.8
5. Some college	29	17.0	34	17.7	63	17.4
6. B.S. or equivalent	19	11.0	28	14.5	47	13.0
7. Graduate degree	3	1.8	9	4.7	12	3.3
8. Professional	7	4.1	9	4.7	16	4.4
No response	6	3.5	3	1.6	9	2.4
Total	172		192		363	

The majority of respondents had completed at least high school. Conservation journalism articles may be understood more readily by persons who have studied biology or conservation. Table 23 lists percentages who had studied conservation or biology.

Table 23. Responses to: While in school, did you study biology or any phase of conservation?

Responses	Kans. Wild. Fed. No.	%	Kans. Fish & Game Mag. No.	%	Total No.	%
1. Yes	81	47.5	98	51.3	179	49.6
2. No	72	42.5	83	43.5	155	42.6
3. Don't remember	13	7.6	5	2.6	18	5.0
No response	4	2.4	5	2.6	9	2.5
Total	170*		191*		361*	

* Error in transfer of data, lack IBM time precluded correction.

Questions 21 through 34 determined the conservation attitudes of the respondents. Questions on pollution, fish kills and hunting hen pheasants are primarily Kansas problems.

Eighty-two per cent of the Magazine respondents and 72.6 per cent of the Federation respondents were aware of the work of a wildlife biologist; 6.4 per cent of the Federation respondents place the work of the wildlife biologists as similar to the work of a game protector compared with 1.5 per cent of the Magazine respondents. Table 24 lists percentages to each who likened a wildlife biologist's work to each of the four categories listed.

Table 24. Responses to: The work of a wildlife or fisheries biologist is similar to the work of:

	Kans. Wild. Fed.		Kans. Fish & Game Mag.		Total	
Responses	No.	%	No.	%	No.	%
1. Forest ranger	1	.5	4	2.0	5	1.4
2. Game protector	11	6.5	3	1.5	14	3.8
3. Research biologist	124	72.6	158	82.4	282	77.8
4. Other	1	.5	5	2.6	6	1.6
No response	34	19.9	22	11.5	56	15.4
Total	171		192		363	

Fish and game regulations are sometimes criticised by sportsmen. However, respondents generally favored current fish and game regulations. Table 25 lists responses. Current fish and game regulations, in most instances, are based on sound biological principles with considerations for the desires of the sportsmen.

Table 25. Responses to: Fish and game regulations should be based upon which one of the following?

Responses	Kans. Wild. Fed. No.	%	Kans. Fish & Game Mag. No.	%	Total No.	%
1. Sound biological principles	57	33.3	73	38.0	130	35.8
2. Desires of sportsmen	3	1.8	4	2.1	7	1.9
3. Combination 1 & 2	100	58.5	103	53.7	203	56.0
No response	11	6.4	12	6.2	23	6.3
Total	171		192		363	

Are wildlife management principles understood by the respondents? The results are given in Table 26.

Table 26. Responses to: Fish and game management should be based on a combination of:

1. Regulations, laws, predator controls, refuge systems, stocking and habitat management.
2. Regulations, laws refuge systems and habitat management.
3. Regulations, laws, stocking programs and predator controls.
4. Other (specify)_____.

Responses	Kans. Wild. Fed. No.	%	Kans. Fish & Game Mag. No.	%	Total No.	%
1.	108	63.6	132	68.9	240	66.3
2.	12	7.1	23	11.9	35	9.7
3.	23	12.9	20	10.4	43	11.9
4.	5	2.9	2	1.0	7	1.9
No response	22	13.5	15	7.8	37	10.2
Total	170*		192		362*	

* Card punched improperly, lack IBM time precluded correction.

Current wildlife management, based on sound biological principles, is based primarily on laws, regulations, refuge systems and habitat management. Few individuals were aware of the current wildlife management practices.

In 1966, Kansas ranked in the top 10 states in the number of fish killed by pollution (Anonymous, 1967a). Table 27 shows the way respondents ranked fish kills in Kansas.

Table 27. Responses to: Last year Kansas was among which group of states in the number of fish killed by pollution?

	Kans. Wild. Fed.		Kans. Fish & Game Mag.		Total	
Responses	No.	%	No.	%	No.	%
1. Top 10 states	52	30.4	78	40.6	130	35.8
2. Middle 30 states	43	25.1	57	29.7	100	27.5
3. Lower 10 states	23	13.5	12	6.3	35	9.7
No response	53	31.0	45	23.4	98	27.0
Total	171		192		363	

Thirty-four per cent of the Federation respondents ranked Kansas in the top 10 states while 40.6 per cent of the Magazine respondents ranked Kansas in the top 10 states, a statistically significant relationship was detected at the .05 level.

The major source of uncontrolled pollution was feed lot runoff (Anonymous, 1967a). Data in Table 28 shows that more than half of the respondents correctly identified Kansas's uncontrolled pollution problem.

Table 28. Responses to: Which do you feel created the greatest uncontrolled pollution problem in Kansas last year?

Response	Kans. Wild. Fed.		Kans. Fish & Game Mag.		Total	
	No.	%	No.	%	No.	%
1. Industrial wastes	38	22.4	43	22.5	81	22.4
2. Agricultural wastes	86	50.5	112	58.7	198	54.9
3. Municipal wastes	20	11.8	17	8.9	37	10.2
4. Other	7	4.1	8	4.2	15	4.2
No response	9	11.2	11	5.7	30	8.3
Total	170*		191*		361*	

* Error in transfer of data, lack of IBM time precluded correction.

Lakes sometimes do not provide good fishing. Table 29 shows what respondents thought may cause poor fishing.

Table 29. Responses to: Which statement do you feel explains the condition of a lake that once had good fishing, but now has only a large number of small fishes and few large fishes caught?

Response	Kans. Wild. Fed.		Kans. Fish & Game Mag.		Total	
	No.	%	No.	%	No.	%
1. Fished out	16	9.4	21	10.9	37	10.2
2. Overfishing some species, not others	76	44.3	94	49.0	170	47.0
3. Other	55	32.2	62	32.3	117	32.1
No response	24	14.1	15	7.8	39	10.7
Total	171		192		363	

Overfishing some predatory species and underfishing panfishes may result in an unbalanced population, creating poor fishing conditions. Table 29 shows the idea of a lake being fished out is not common among the

respondents.

Pittman-Robertson legislation provides that part of the Federal excise tax paid on sporting arms and ammunition be used for wildlife management and research. Table 30 data indicates that only 36 per cent of the respondents were aware of that legislation.

Table 30. Responses to: Does part of the federal tax paid on sporting firearms and ammunition pay for wildlife management and research?

	Kans. Wild. Fed.		Kans. Fish & Game Mag.		Total	
Responses	No.	%	No.	%	No.	%
1. Yes	54	31.6	77	40.1	131	36.1
2. No	17	9.9	17	8.8	34	9.3
3. Don't know	91	53.2	90	46.9	181	49.9
No response	9	5.3	8	4.2	17	4.7
Total	171		192		363	

Habitat management has been accepted as an effective method of increasing wildlife by a majority of the respondents, as shown in Table 31, as well as by the wildlife biologist.

Table 31. Responses to: What is your feeling about managing land, plants and water (habitat management) to provide game animals for recreational purposes?

	Kans. Wild. Fed.		Kans. Fish & Game Mag.		Total	
Responses	No.	%	No.	%	No.	%
1. It is effective	107	62.6	129	67.4	236	65.0
2. It is not effective	13	7.6	8	4.1	21	5.8
3. Don't know	37	21.6	46	23.9	83	22.9
No response	14	8.2	9	4.6	23	6.3
Total	171		192		363	

Returning panfishes to farm ponds with an established fish population is practiced by some sportsmen. Table 32 demonstrates the beliefs of respondents.

Table 32. Responses to: Do you believe it is a wise conservation practice to return bluegill, crappie and panfish and bullheads you catch while fishing a farm pond?

	Kans. Wild. Fed.		Kans. Fish & Game Mag.		Total	
Responses	No.	%	No.	%	No.	%
1. Yes	29	17.0	35	18.2	64	17.6
2. No	110	64.4	128	66.7	238	65.6
3. Don't know	24	14.0	22	11.4	46	12.7
No response	8	4.6	7	3.6	15	4.1
Total	171		192		363	

Sixty-five and sixth-tenths per cent responded it was not a wise conservation practice to return small fishes, which agrees with current fisheries management practices.

Predator control is not accepted by biologists as an effective way of improving wildlife populations. Table 33 data gives the respondents' beliefs.

Table 33. Responses to: Do you feel predators, as coyotes and foxes, need to be controlled to maintain good wildlife populations for hunting?

	Kans. Wild. Fed.		Kans. Fish & Game Mag.		Total	
Responses	No.	%	No.	%	No.	%
1. Yes	70	40.9	73	38.0	143	39.4
2. No	33	19.3	32	16.7	65	17.9
3. Only in a few instances	58	34.0	76	39.6	134	36.9

Table 33-Continued.

Responses	Kans. Wild. Fed. No.	%	Kans. Fish & Game Mag. No.	%	Total No.	%
4. Don't know	4	2.3	5	2.6	9	2.5
No response	6	3.5	6	3.1	12	3.3
Total	171		192		363	

Only 17.9 per cent of the respondents believe that predators need not be controlled in good wildlife management practices. Either the message about predator control has reached few respondents or they disagree with it.

Question 31, on the sources of game commission funds, was prepared so the correct response was not a multiple choice. Respondents could answer correctly only the "other" responses and write in "sale of licenses". Table 34 lists the results.

Table 34. Responses to: Where does most of the money for the operation of the Kansas Forestry, Fish and Game Commission come from?

Responses	Kans. Wild. Fed. No.	%	Kans. Fish & Game Mag. No.	%	Total No.	%
1. State sales tax	11	6.4	12	6.2	23	6.3
2. State property tax	16	9.4	12	6.2	28	7.7
3. State income tax	10	5.9	13	6.71	23	6.3
4. Other	32	18.7	25	13.1	57	15.7
5. Sale of licenses (supplied by respondents)	59	34.5	103	53.7	162	44.7
No response	43	25.1	27	14.1	70	19.3
Total	171		192		363	

Nearly half, 44.7 per cent, supplied the correct answer.

Research has shown that stocking pen-raised wildlife by releasing species into an established wildlife population has not effectively increased the population for recreational purposes. Table 35 shows beliefs of the respondents in regard to that practice.

Table 35. Responses to: Do you believe stocking native wildlife in areas where such animals have established populations helps to increase wildlife populations for hunting?

	Kans. Wild. Fed.		Kans. Fish & Game Mag.		Total	
Responses	No.	%	No.	%	No.	%
1. Yes	61	35.7	63	32.8	124	34.2
2. No	35	20.4	43	22.4	78	21.5
3. Sometimes	52	30.4	56	29.2	108	29.8
4. Don't know	15	8.8	20	10.4	35	9.6
No response	8	4.7	10	5.2	18	4.9
Total	171		192		363	

The Kansas Forestry, Fish and Game Commission for many years publicized its stocking programs. The pheasant stocking program was successful, but the stocking programs for native bobwhite quail and other game birds were not. Kansas is one of the few states remaining that operates a quail farm. Table 35 must be viewed with that background.

The concensus among biologists is that stocking wildlife to increase native populations is an unwise and expensive practice. In contrast to the response on stocking, many respondents were aware that stocking is expensive as shown in Table 36. Apparently "wishful thinking" and/or publicity given Kansas stocking programs prior to 1961 accounts for respondents being willing to "pay the price" for a questionable practice.

Table 36. Responses to: Stocking wildlife in its established range to provide game for hunters is:

Responses	Kans. Wild. Fed. No.	%	Kans. Fish & Game Mag. No.	%	Total No.	%
1. Expensive	112	65.5	134	70.1	246	67.9
2. Inexpensive	32	18.7	33	17.4	65	18.0
No response	27	15.8	24	12.5	51	14.1
Total	171		191*		362*	

* Miss punched card, lack of IBM time precluded correction.

Hunting the females of a species after the breeding season has been accepted as a sound biological principle. Table 37 lists respondents' views on hunting hen pheasants.

Table 37. Responses to: Should hunting hen pheasants be permitted under proper regulations?

Responses	Kans. Wild. Fed. No.	%	Kans. Fish & Game Mag. No.	%	Total No.	%
1. Yes	47	27.5	39	20.3	86	23.7
2. No	52	30.4	62	32.3	114	31.4
3. Sometimes	52	30.4	61	31.8	113	31.1
4. Don't know	12	7.0	21	10.9	33	9.1
5. Other	3	1.8	5	2.6	8	2.2
No response	5	2.9	4	2.1	9	2.5
Total	171		192		363	

Only 23.7 per cent answered "yes" indicating that reasons for the soundness of the practice should be explained to the respondents and other sportsmen.

Question 35 determined if individuals received and read a mimeographed news letter on conservation or natural resources. All members of the Federation receive a monthly news letter. The question may have erred by using the term "mimeographed". A specific printing process should have not been mentioned. The results are given in Table 38.

Table 38. Responses to: Do you receive and read a mimeographed letter on conservation or natural resources through the mail?

	Kans. Wild. Fed.		Kans. Fish & G Game Mag.		Total	
Responses	No.	%	No.	%	No.	%
1. Yes	83	48.9	47	24.4	130	35.9
2. No	65	38.2	126	65.8	191	52.7
3. Received, but don't read regularly	19	11.2	7	3.6	26	7.2
No response	3	1.7	12	6.2	15	4.2
Total	170*		192		362*	

* Miss punched data card, IBM precluded correction.

As each response was received, the hometown of the respondent was plotted on a Kansas map divided into the three pheasant hunting zones. (Anonymous, 1967d). The maps are in Appendix III. Tabulation of respondents by zones are given in Table 39.

Table 39. Distribution of responses by pheasant hunting management zones.

	Kans. Wild. Fed.		Kans. Fish & Game Mag.		Total	
Responses	No.	%	No.	%	No.	%
1. Western 2/3 of state	44	26.2	54	28.0	98	27.2
2. Northeastern 1/3 of state	59	35.1	81	42.2	140	38.9

Table 39-Continued.

Responses	Kans. Wild. Fed. No.	%	Kans. Fish & Game Mag. No.	%	Total No.	%
3. Southeastern 1/3 of state	61	36.3	53	27.8	114	31.7
Missing data	4	2.4	4	2.0	8	2.2
Total	168*		192		360*	

* Cards mispunched, lack of IBM time precluded correction.

Statistically Significant Relationships

Of the 741 possible differences tested between characteristics, 94 were significant at the .05 level, 98 at the .01 level and 33 at the .001 level.

Shortened terms for each characteristic were used (Appendix I, Table 51). The questions on mass media sources of conservation information were compared. Three statistically significant relationships were detected at the .05 level, 3 at the .01 level and 30 at the .001 level. Of all characteristics compared, the comparison of information sources had the highest number of statistically significant relationships at the .01 and .001 levels (Table 40).

Table 40. Levels of statistical significance of differences between characteristics on indicated mass media conservation information sources.

Characteristics compared	Significance levels[a]
Listens to radio vs. Watches television	***
" vs. Reads conservation magazine	***
" vs. Reads sporting magazine	***
" vs. Reads outdoor column	***
" vs. Requested agency information	***
" vs. Conservation books read	***
" vs. Sporting books read	**
" vs. Views presentations	***
Watches television vs. Reads conservation magazine	***
" vs. Reads sporting magazine	***
" vs. Reads outdoor column	***
" vs. Requested agency information	**
" vs. Conservation books read	***
" vs. Sporting books read	*
" vs. Views presentations	*
Reads conservation magazine vs. Reads sporting magazine	***
" vs. Reads outdoor column	***
" vs. Requested agency information	***
" vs. Conservation books read	***
" vs. Sporting books read	***
" vs. Views presentations	***
Reads sporting magazine vs. Reads outdoor column	***
" vs. Requested agency information	***
" vs. Conservation books read	***
" vs. Sporting books read	***
" vs. Views presentations	*
Reads outdoor column vs. Requested agency information	***
" vs. Conservation books read	***
" vs. Sporting books read	***
" vs. Views presentations	**
Requested agency information vs. Conservation books read	***
" vs. Sporting books read	***
" vs. Views presentations	***
Conservation books read vs. Sporting books read	***
" vs. Views presentations	***
Sporting books read vs. Views presentations	***

[a] * significant at .05 level
** significant at .01 level
*** significant at .001 level

Statistically significant results were from individual cells having either more or fewer responses than expected by chance. For example comparing Listens to radio with each of the other sources of information, "never" was indicated by more respondents than would be expected by chance. When significance reaches the .01 level chances alone would account for that wide a difference only one time in 100 cases.

Six of the demographic characteristics compared were detected to be statistically significant to the .05 level, 3 at the .01 level and 20 at the .001 level. Statistically significant differences are listed in Table 41.

Table 41. Statistically significant relationships detected in comparison of demographic characteristics.

Characteristics compared		Significance levels[a]
Youth group member	vs. Age	***
"	vs. Income	*
"	vs. Occupation	***
"	vs. Education	***
"	vs. Studied biology or conservation	**
Age	vs. Sex	*
"	vs. Status	***
"	vs. Income	***
"	vs. Occupation	***
"	vs. Membership	*
"	vs. Education	***
"	vs. Studied biology or conservation	***
Sex	vs. Status	***
"	vs. Occupation	***
"	vs. Membership	**
Status	vs. Children	***
"	vs. Income	***
"	vs. Occupation	***
"	vs. Organization officer	***
"	vs. Studied biology or conservation	*

[a] * significant at .05 level
** significant at .01 level
*** significant at .001 level

Table 41-Continued.

Characteristics compared		Significance[a] levels
Children	vs. Occupation	**
Income	vs. Occupation	***
"	vs. Membership	*
"	vs. Education	***
"	vs. Studied biology or conservation	*
Occupation	vs. Education	***
"	vs. Organization officer	***
"	vs. Studied biology or conservation	***
Memberships	vs. Studied biology or conservation	***

[a] * significant at .05 level
** significant at .01 level
*** significant at .001 level

Respondents were not representative of the Kansas population. For example, only 18 of the 363 respondents were females, and the 18 to 44 year old group was over represented.

Conservation attitudes were compared. Twelve statistically significant differences were detected at the .05 level, 8 at the .01 level and 12 at the .001 level (Table 42).

Table 42. Statistically significant relationships detected in comparison of conservation attitudes.

Characteristics compared		Significance level[a]
Work of biologist	vs. Fish and game regulations	***
"	vs. Fish and game management	**
"	vs. Habitat management	*
"	vs. Predator control	*
Fish and game regulations	vs. Fish and game management	*
"	vs. Lake conditions	*
"	vs. Sources commission funds	*

[a] * significant at .05 level
** significant at .01 level
*** significant at .001 level

Table 42-Continued.

Characteristics compared	Significance level[a]
Fish and game management vs. Federal excise tax	**
" vs. Habitat management	*
" vs. Sources commission funds	*
" vs. Stocking expense	**
Fish pollution kills vs. Pollution sources	***
" vs. Habitat management	**
" vs. Returns panfish	*
" vs. Predator control	**
" vs. Sources commission funds	*
Pollution sources vs. Stocking wildlife	*
Lake conditions vs. Returns panfish	***
" vs. Sources commission funds	***
" vs. Hunting hen pheasants	*
Federal excise tax vs. Habitat management	***
" vs. Returns panfish	***
" vs. Predator control	*
" vs. Sources commission funds	***
Habitat management vs. Returns panfish	**
" vs. Predator control	*
" vs. Sources commission funds	*
" vs. Stocking wildlife	***
Return panfish vs. Predator control	***
" vs. Sources commission funds	***
" vs. Stocking wildlife	**
" vs. Hunting hen pheasants	***
Predator control vs. Stocking wildlife	***
" vs. Hunting hen pheasants	**
Stocking wildlife vs. Hunting hen pheasants	**

[a] * significant at .05 level
** significant at .01 level
*** significant at .001 level

Statistically significant relationships dealt with such conservation public relations problems as hunting hen pheasants returning warm water fishes, controlling predators and stocking wildlife and its expense. Differences

of opinions on sources of game commission funds and research funds were also repeatedly significant between the two groups tested.

In comparison of the mass media conservation information sources compared with conservation attitudes, 24 statistically significant relationships were detected at the .05 level, 7 at the .01 level and 10 at the .001 level (Table 43).

Table 43. Statistically significant relationships detected in comparison of mass media sources, conservation information sources and conservation attitudes.

Characteristics compared		Significance level[a]
Listens to radio	vs. Fish and game regulations	*
"	vs. Returns panfish	*
Watches television	vs. Returns panfish	***
"	vs. Predator control	*
"	vs. Sources commission funds	*
"	vs. Hunting hen pheasants	*
Reads conservation magazine	vs. Fish and game regulations	*
"	vs. Lake condition	**
"	vs. Federal excise tax	**
"	vs. Habitat management	*
"	vs. Returns panfish	*
"	vs. Sources commission funds	*
Reads sporting magazine	vs. Fish pollution kills	*
"	vs. Pollution sources	*
"	vs. Federal excise tax	*
"	vs. Habitat management	***
"	vs. Returns panfish	***
"	vs. Predator control	*
"	vs. Stocking wildlife	*
"	vs. Hunting hen pheasants	***
Reads outdoor column	vs. Pollution sources	**
"	vs. Federal excise tax	***
"	vs. Habitat management	***
"	vs. Returns panfish	**

[a] * significant at .05 level
** significant at .01 level
*** significant at .001 level

Table 43-Continued.

Characteristics compared		Significance level[a]
Reads outdoor column	vs. Predator control	*
"	vs. Sources commission funds	**
"	vs. Hunting hen pheasants	*
Requested agency information	vs. Fish and game management	*
"	vs. Federal excise tax	***
"	vs. Habitat management	***
"	vs. Return panfish	**
"	vs. Predator control	*
"	vs. Sources commission funds	***
"	vs. Stocking wildlife	*
Conservation books read	vs. Federal excise tax	***
"	vs. Predator control	*
"	vs. Stocking wildlife	*
Sporting books read	vs. Federal excise tax	***
"	vs. Predator control	**
"	vs. Hunting hen pheasants	**
Views presentations	vs. Returns panfish	*
"	vs. Stocking wildlife	**
"	vs. Hunting hen pheasants	*

[a] * significant at .05 level
** significant at .01 level
*** significant at .001 level

The statistically significant relationships detect by the comparison of conservation attitudes and mass media conservation information sources were the sources of game commission funds and controversial subjects.

In comparison of mass media conservation information sources and demographic characteristics, 17 statistically significant relationships were detected at the .05 level, 6 at the .01 level and 7 at the .001 level (Table 44).

Table 44. Statistically significant relationships detected in the comparison of mass media conservation information sources and demographic characteristics.

Characteristics compared		Significance level[a]
Listens to radio	vs. Age	*
"	vs. Status	*
"	vs. Organization officer	*
"	vs. Education	*
Watches television	vs. Age	*
"	vs. Organization officer	**
"	vs. Education	*
Reads conservation magazine	vs. Youth group member	**
"	vs. Children	*
"	vs. Membership	*
Reads sporting magazine	vs. Youth group member	*
"	vs. Income	*
Reads outdoor column	vs. Age	**
"	vs. Status	***
"	vs. Income	***
"	vs. Membership	**
Requested agency information	vs. Youth group member	*
"	vs. Income	*
"	vs. Membership	***
"	vs. Organization officer	*
Conservation books read	vs. Youth group member	**
"	vs. Membership	***
"	vs. Organization officer	***
Sporting books read	vs. Youth group member	*
"	vs. Membership	*
"	vs. Organization officer	**
Views presentations	vs. Youth group member	*
"	vs. Children	*
"	vs. Membership	***
"	vs. Organization officer	***

[a] * significant at .05 level
** significant at .01 level
*** significant at .001 level

Statistically significant relationships were detected between demographic characteristics of Age, Education, Membership, Organization officer, Income

and Youth group member and sources of mass media used for conservation information.

In comparison of demographic characteristics and conservation attitudes, 16 were detected statistically significant at the .05 level, 11 at .01 level and 4 at the .001 level (Table 45).

Table 45. Statistically significant relationships detected in comparison of demographic characteristics and conservation attitudes.

Characteristics compared		Significance level[a]
Youth group member	vs. Federal excise tax	*
"	vs. Predator control	**
Age	vs. Work of biologist	***
"	vs. Fish and game regulations	**
"	vs. Predator control	**
Sex	vs. Fish and game regulations	*
"	vs. Federal excise tax	*
"	vs. Habitat management	**
"	vs. Returns panfish	***
"	vs. Predator control	**
Status	vs. Habitat management	**
"	vs. Returns panfish	***
"	vs. Sources commission funds	*
Income	vs. Fish and game regulations	**
Occupation	vs. Work of biologist	*
"	vs. Fish and game regulations	**
"	vs. Pollution sources	*
"	vs. Predator control	*
Membership	vs. Lake condition	*
"	vs. Returns panfish	*
"	vs. Hunting hen pheasants	*
Organization officer	vs. Federal excise tax	*
"	vs. Sources commission funds	*
"	vs. Hunting hen pheasants	*

[a] * significant at .05 level
** significant at .01 level
*** significant at .001 level

Table 45-Continued.

Characteristics compared		Significance level[a]
Education	vs. Work of biologist	***
"	vs. Fish and game regulations	**
"	vs. Predator control	*
Studied conservation or biology	vs. Fish and game regulations	**
"	vs. Habitat management	*

[a] * significant at .05 level
** significant at .01 level
*** significant at .001 level

Statistically significant relationships were detected between demographic characteristics and controversial conservation subjects and sources of game commission funds.

In the comparison of Reads mimeographed letter and other characteristics, 7 were detected significant at the .05 level, 3 at .01 level and 6 at the .001 level (Table 46).

Table 46. Statistically significant relationships detected in comparison of receive mimeograph letter and other characteristics.

Characteristics compared		Significance level[a]
Receive mimeographed letter	vs. Listens to radio	*
"	vs. Watches television	***
"	vs. Reads conservation magazine	**
"	vs. Reads sporting magazine	*
"	vs. Requested agency information	***
"	vs. Conservation books read	**
"	vs. Sporting books read	*
"	vs. Views presentations	***

[a] * significant at .05 level
** significant at .01 level
*** significant at .001 level

Table 46-Continued.

Characteristics compared		Significance level[a]
Receive mimeographed letter vs.	Membership	***
"	vs. Organization officer	*
"	vs. Habitat management	**
"	vs. Returns panfish	*
"	vs. Sources commission funds	*
"	vs. Hunting hen pheasants	*
"	vs. List	***
"	vs. Area	***

[a] * significant at .05 level
** significant at .01 level
*** significant at .001 level

In comparison of the date the questionnaire was returned and other characteristics, 4 were detected statistically significant at the .05 level, and 2 at the .001 level.

Table 47. Statistically significant relationships detected in comparison of date returned and characteristics.

Characteristics compared		Significance level[a]
Date	vs. Reads outdoor column	*
"	vs. Conservation books read	*
"	vs. Status	***
"	vs. Work of biologist	*
"	vs. Federal excise tax	*
"	vs. Color	***

[a] * significant at .05 level
** significant at .01 level
*** significant at .001 level

Hen pheasant hunting attitudes were compared with the area of the state of the respondents, attitudes towards hunting hen pheasants were not detected statistically significant among zones. But respondent's characteristics differed by zones as indicated in Table 48. No explanation is readily

apparent for the differences found.

Table 48. Statistically significant relationships detected in comparison of area of state and characteristics.

Characteristics compared		Significance level[a]
Area	vs. Watches television	*
"	vs. Membership	*
"	vs. Pollution sources	*
"	vs. Lake conditions	*
"	vs. Receives mimeographed letter	***

[a] * significant at the .05 level
** significant at the .01 level
*** significant at the .001 level

The color of the questionnaire was compared statistically with the characteristics. One was detected statistically significant at the .05 level, 2 at the .01 level and 4 at the .001 level (Table 49).

Table 49. Statistically significant relationships detected in comparison of color of questionnaire and characteristics.

Characteristics compared		Significance level[a]
Color	vs. Reads conservation magazine	**
"	vs. Request agency information	**
"	vs. Membership	***
"	vs. Habitat management	*
"	vs. Receive mimeographed letter	***
"	vs. List	***
"	vs. Date	***

[a] * significant at .05 level
** significant at .01 level
*** significant at .001 level

Since green and brown questionnaires were sent to the Magazine population and yellow and blue questionnaires to the Federation population, differences in color of the questionnaire likely reflects differences between the two groups of respondents.

Favorite Mass Media

Following questions one through five and seven, the respondent was asked to list his favorite radio show, television show, conservation magazine, sporting magazine and favorite conservation book.

Few respondents completed the open-ended questions. Fifty-seven listed Harold Ensley and 29, John King as their favorite radio conservation, outdoor recreation, hunting or fishing show. All radio programs listed two or more times by respondents are given in Table 52 (Appendix I).

One hundred eighty-three respondents listed Harold Ensley and 48, the American Sportsman as their favorite outdoor recreation, hunting or fishing or conservation television show. Shows listed two or more times are given in Table 53 (Appendix I).

Sixty-one respondents listed the Kansas Fish and Game magazine; 17, National Wildlife; and 15, National Geographic as their favorite conservation or natural history magazine. Conservation magazines listed two or more times are given in Table 54 (Appendix I).

Ninety-one respondents listed Field and Stream; 72, Outdoor Life; and 47, Sports Afield as their favorite sporting magazine. Sporting magazines listed two or more times are given in Table 55 (Appendix I).

In response to their favorite conservation or outdoor column or page in a newspaper, some respondents mentioned a newspaper while others gave a writer's name. Forty-one listed the Kansas City Star, Ray Heady or Frank Alexander. Thayne Smith's outdoor column, carried by many Kansas newspapers, was listed 37 times. Newspapers listed two or more times are given in Table 56 (Appendix I).

Some respondents listed conservation magazines as sporting magazines while others listed sporting magazines as conservation magazines. This may

be either an error in questionnaire design or failure by respondents to distinguish between the two types of magazines.

Few respondents listed their favorite books. Only three were listed more than once: Our Margin of Life, 3 times; Waterfowl Tomorrow, 3 times; and Silent Spring, 2 times. All books listed are given in Table 57 (Appendix I).

CHAPTER IV

Conclusion

Based on this study, respondents view television shows on hunting, fishing, outdoor recreation and conservation more frequently than they use other mass media sources of conservation information.

By totaling the frequencies of occasionally, often and always responses, 88.7 per cent viewed outdoor conservation television shows, 83 per cent read a hunting and fishing or related sporting magazine, 78.6 per cent read outdoor columns or pages in newspapers, 63 per cent listened to outdoor or conservation radio programs and 60.6 per cent read conservation magazines.

Requesting information from a conservation agency was not common; only 24.4 per cent requested information two or more times a year. But the Kansas Fish and Game respondents requested information more frequently than Kansas Wildlife Federation respondents.

A higher percentage of respondents, 46.5 per cent, read two or more hunting, fishing or related sporting books, than read two or more conservation books, 31.9 per cent, in the last five years.

Few respondents, 15.2 per cent, viewed four or more movies, lectures or slide presentations last year, but a higher percentage of Kansas Wildlife Federation respondents, 22.8 per cent, viewed four or more presentations last year.

Less than one-half, 46.9 per cent, responded they were members of an outdoor, sporting or conservation orientated organization. Almost 43 per cent of the Kansas Wildlife Federation respondents did not mention being

members of the organization, while slightly over one-third mentioned receiving a news letter on conservation or sporting activities. About 13 per cent of the population were or had been officers in a sporting or conservation orientated organization.

The majority of respondents were married males over 18 years old with two or more children and an annual income of more than $5,000. Most respondents had completed at least high school and about one-half had studied either biology or conservation.

The majority of the respondents said the work of the wildlife biologist is similar to the work of a research biologist. Over one-half felt that fish and game regulations should be based on a combination of the desires of the sportsmen and sound biological principles, while slightly more than 10 per cent responded that fish and game management should be based on regulations, laws, refuge systems and habitat management.

Over one-third knew Kansas ranked in the upper 10 states in the number of fish killed by pollution last year, and more than one-half knew the major uncontrolled source of pollution was agricultural wastes.

Less than one-half indicated that over fishing of one species and under fishing of another species may be a reason for poor fishing conditions in a lake. The majority felt it was not a wise conservation practice to return panfish to a farm pond.

The majority of respondents were not aware that a portion of the federal excise tax on sporting arms and ammunition is used for wildlife management and research but almost one-half knew the major source of income for the Kansas Forestry, Fish and Game Commission was the sale of hunting and fishing licenses.

A majority of the respondents felt habitat management was effective in

providing game animals for recreational purposes while almost 40 per cent felt predators needed to be controlled to increase wildlife populations.

Slightly over one-third felt stocking was effective in increasing wildlife populations, but the majority felt stocking was expensive. Less than one-fourth thought hunting hen pheasants under sound biological principles should always be permitted.

Statistically significant relationships were detected within the frequencies of the use of the mass media sources of conservation information compared, within conservation attitudes compared, between the frequency of use of the media and demographic characteristics compared, and between demographic characteristics and conservation attitudes compared.

Additional statistically significant relationships were detected in comparison of other characteristics with receipt of mimeographed news letter, date questionnaire returned, area of state of respondent's home town, and color of questionnaire.

Respondents were asked to list their favorite radio shows, television program, conservation magazine, hunting and fishing sporting magazine, newspaper outdoor page or column and conservation books.

Harold Ensley and John King were the favorite radio shows while Harold Ensley and the American Sportsman were the most frequently listed television shows. Favorite conservation magazines were: Kansas Fish and Game, National Wildlife and National Geographic. Favorite sporting magazines were: Field and Stream, Sports Afield and Outdoor Life. Favorite newspapers with outdoor columns or pages or writers were the Kansas City Star and Thayne Smith's outdoor column.

Suggested Studies

Some additional areas that need to be investigated include: (1) conservation mass media used by a larger population, (2) acceptance of conservation ideas and the role mass media have in developing acceptance, (3) determine how controversial conservation topics may be approached by the mass media to re-orientate thinking along wise management practices, (4) influence whether or not change of management practices of the Kansas Forestry, Fish and Game Commission in the last decade is related to the current controversial problems, (5) the differences between outdoor writing and conservation journalism.

APPENDIX I

Table 50. Questionnaire returns by days, 1968.

Date	Day	Kans. Wild. Fed.	Kans. Fish & Game Mag.	Daily total	Running total
First Mailing of Questionnaire, February 16.					
February 19	Monday	0	1	1	1
" 20	Tuesday	15	29	44	45
" 21	Wednesday	35	47	82	127
February 22	Thursday	-	-	-	127
" 23	Friday	19	35	54	181
" 24	Saturday	18	15	33	214
February 26	Monday	5	5	10	224
" 27	Tuesday	7	10	17	241
" 28	Wednesday	5	10	15	256
February 29	Thursday	3	2	5	261
March 1	Friday	3	3	6	267
" 2	Saturday	4	3	7	274
Second Mailing of Questionnaire, March 1.					
March 4	Monday	0	1	1	275
" 5	Tuesday	12	4	16	291
" 6	Wednesday	13	13	26	317
March 7	Thursday	11	6	17	334
" 8	Friday	5	1	6	340
" 9	Saturday	4	1	5	345
March 11	Monday	4	3	7	352
" 12	Tuesday	4	-	4	356
" 13	Wednesday	1	2	3	359
March 14	Thursday	1	-	1	360
" 15	Friday	1	2	3	363*
" 16-19		3	-	3	366

* Three respondents answered two questionnaires each. Two were Kansas Wildlife Federation respondents and one was a Kansas Fish and Game Magazine respondent.

Table 51. Identification phrases underlined for referral to questions or characteristics.

1.	How often do you listen by radio to a conservation, outdoor recreation, hunting or fishing program? Listens to radio
2.	How often do you watch a television show on conservation, outdoor recreation, hunting or fishing? Watches television
3.	How often do you read a conservation or natural history magazine? Reads conservation magazine
4.	How often do you read a hunting, fishing, camping or outdoor recreation magazine? Reads sporting magazine
5.	How often do you read a conservation, outdoor recreation, hunting, or fishing column or page in a newspaper? Reads outdoor column
6.	How often have you requested conservation literature or information from a state game commission or federal agency controlling natural resources? Requested agency information
7.	How many wildlife conservation, natural history or natural conservation books have you read in the last five years? Conservation books read
8.	How many books on hunting, fishing or outdoor recreation have you read in the last five years? Sporting books read
9.	How many conservation, outdoor recreation, hunting or fishing movies, lectures, or slide shows have you seen or attended in the last year? Views presentations
10.	Were you or are you a member of a youth group such as Boy Scouts, Girl Scouts, 4-H, Future Farmers or similar group? Youth group member
11.	How old are you? Age
12.	You are a 1. Male 2. Female Sex
13.	You are 1. Single 2. Married 3. Divorced 4. Separated 5. Widowed Status

Table 51-Continued.

14. If married, how many children do you have?
Children

15. Your approximate income level is?
Income

16. What is your present occupation?
Occupation

17. Which statement characterizes your membership?
Membership

18. Are you or have you been an officer or committee member in the National Wildlife Federation, Kansas Wildlife Federation, local sportsman's group or conservation orientated group?
Organization officer

19. What is the highest grade you have finished in school?
Education

20. While in school, did you study biology or any phase of conservation?
Studied conservation or biology

21. The work of a wildlife or fisheries biologist is similar to the work of?
Work of biologist

22. Fish and game regulations should be based upon which one of the following?
Fish and game regulations

23. Fish and game management should be based on a combination of?
Fish and game management

24. Last year Kansas was among which group of states in the number of fish killed by pollution?
Fish pollution kills

25. Which do you feel created the greatest uncontrolled pollution problem in Kansas last year?
Pollution sources

26. Which statement do you feel explains the condition of a lake that once had good fishing, but now has only a large number of small fishes caught and few large ones caught?
Lake condition

27. Does part of the federal excise tax paid on firearms and ammunition pay for wildlife management and research?
Federal excise tax

Table 51-Continued.

28. What is your feeling about managing land, plants and water (habitat management) to provide game animals for recreational purposes?
Habitat management

29. Do you believe it is a wise conservation practice to return bluegill, crappie, and panfish and bullheads you catch while fishing in a farm pond?
Returns panfish

30. Where does most of the money for the operation of the Kansas Forestry, Fish and Game Commission come from?
Sources game commission funds

31. Do you feel that predators coyotes and fox need to be controlled to maintain good wildlife populations for hunting?
Predator control

32. Do you believe stocking native wildlife in areas where such animals have established populations helps to increase wildlife populations for hunting?
Stocking wildlife

33. Stocking wildlife in its established range to provide game for hunters is?
Stocking expense

34. Should hen pheasant hunting be permitted under proper regulations?
Hunting hen pheasants

35. Do you receive and read a mimeographed letter on conservation or natural resources through the mail?
Receives mimeographed letter

36. Time period questionnaire returned.
Date

37. Area of state of hometown of respondent.
Area

38. Color of questionnaire used in sampling.
Color

39. Roster name obtained for sample to send questionnaire.
List

Table 52. List of favorite radio conservation, outdoor recreation, hunting or fishing programs mentioned two or more times.

Radio show	Times Mentioned
Harold Ensley	57
John King	29
George Halazon	9
Kansas Fish and Game	7
Nebraska Wildlife	7
KFDI, Ralph Cramm	5
KFH	4
Outdoor Sports for Kansans	4
K. Allen	2

Table 53. List of favorite television shows on conservation, outdoor recreation, hunting or fishing mentioned two or more times.

Television show	Times Mentioned
Harold Ensley	183
American Sportsman	48
John King	11
Wild Kingdom	9
National Geographic	7
Disney	5
Wide World of Sports	5
Land and Seas	5
Specials	4
Gadabout Gaddi	4
KTVH	3
Hunting and Fishing	2
Lassie	2

Table 54. List of favorite conservation magazines mentioned two or more times.

Magazine	Times Mentioned
Kansas Fish and Game	61
National Wildlife	17
National Geographic	15
Kansas Sportsman	5
Outdoor Life	5
Colorado Outdoors	3
Missouri Conservationists	3
Natural History	3
Nebraska Wildlife	3
Audubon Society	2
Ducks Unlimited	2
Kansas Outdoors	2

Table 55. List of favorite sporting magazines mentioned two or more times.

Magazine	Times Mentioned
Field and Stream	91
Outdoor Life	72
Sports Afield	47
American Rifleman	9
Kansas Outdoors	4
Fur-Fish-Game	4
The Beaver	2
Better Camping	2
Camper Coachman	2
Camping Guide	2

Table 56. List of favorite conservation, outdoor recreation, hunting or fishing columns or pages in a newspaper mentioned two or more times.

Newspaper column or writer	Times Mentioned
Kansas City Star, Ray Heady & Frank Alexander	41
Thayne Smith, his column is carried in many Kansas papers	37
Wichita Eagle-Beacon	27
Hutchinson	13
Topeka	6
Salina Journal	5
Denver Post	3
Emporia	2
Shots and Lures	2
Farm Journal	2

Table 57. List of favorite wildlife conservation, natural history or natural resources books.

Book	Times Mentioned
Out Margin of Life	3
Waterfowl Tomorrow	3
Silent Spring	2
Art of Survival	1
Bear	1
Our Wildlife Legacy	1
The Wild Turkey	1
Blight of Our Land	1
Natural History	1
Human Side of Animals	1
Disney's World of Nature	1
Mammals of North America	1
North American Waterfowl	1
Sportsman's Encyclopedia	1
The Old Man and the Boy	1
Face of North America	1
Beyond Your Door Step	1
Plant Ecology	1
Birds In Our Lives	1
Fieldbook of Natural History	1
Peterson's Guide to Eastern Birds	1
Pheasants of the World	1
Kansas School Naturalist	1
Fur-Fish-Game Books	1

Table 58. Color of questionnaire sent to individuals sampled.

Color	Kans. Wild. Fed.		Kans. Fish & Game Mag.		Total	
	No.	%	No.	%	No.	%
1. Green	0	0	166	86.9	166	45.8
2. Yellow	129	75.6	0	0	129	35.7
3. Brown	2	1.1	24	12.6	26	7.2
4. Blue	40	23.3	7	1.5	41	11.3
Total	171		192		363	

APPENDIX II

Kansas State University

Manhattan, Kansas 66502

Department of Technical Journalism
Kedzie Hall

January 26, 1968

Dear Sportsman:

Would you please answer the enclosed questionnaire on your sources of wildlife conservation information.

The information gathered from this questionnaire will be incorporated as part of my master degree thesis in Conservation Journalism at Kansas State University. The study is possible through the cooperative efforts of the National Wildlife Federation, the Kansas Wildlife Federation and Kansas State University.

The objective of this study is to learn something about you--the sportsman, your sources of conservation information and your understanding of some conservation practices. This study will benefit you by giving the outdoor writer a better understanding of you--the sportsman. By knowing and understanding sportsmen better, the outdoor writer will be able to write more effectively and to inform you of current conservation practices.

Enclosed is a questionnaire and stamped addressed envelope so you may return the questionnaire to me. Please answer the questions by circling your response; the questionnaire can be answered in five minutes. Your questionnaire will remain anonymous.

Thank you for your cooperation and assistance with this project.

Respectfully,

Donald E. Zimmerman

Donald E. Zimmerman
Graduate Student
Technical Journalism

Circle the number of your response to each question

1. How often do you listen by radio to a conservation, outdoor recreation, hunting or fishing program?

   1. Never 2. Seldom 3. Occasionally 4. Often 5. Always

2. How often do you watch a television show on conservation, outdoor recreation, hunting or fishing?

   1. Never 2. Seldom 3. Occasionally 4. Often 5. Always

3. How often do you read a conservation or natural history magazine?

   1. Never 2. Seldom 3. Occasionally 4. Often 5. Always

4. How often do you read a hunting, fishing, camping or outdoor recreation magazine?

   1. Never 2. Seldom 3. Occasionally 4. Often 5. Always

5. How often do you read a conservation, outdoor recreation, hunting or fishing column or page in a newspaper?

   1. Never 2. Seldom 3. Occasionally 4. Often 5. Always

6. How often have you requested conservation literature or information from a State Game Commission or Federal Agency controlling natural resources?

   1. Never 2. Once a year 3. Two to five times a year 4. Six or more times a year.

7. How many wildlife conservation, natural history or natural resource books have you read?

   1. None 2. One 3. Two to five 4. Six to eleven 5. Twelve or more

8. How many books on hunting, fishing or outdoor recreation have you read?

   1. None 2. One 3. Two to five 4. Six to eleven 5. Twelve or more

9. How many conservation, outdoor recreation, hunting or fishing movies, lectures, or slide shows have you seen or attended in the last year? (do not include those you may have seen on television)

   1. None 2. One to three 3. Four to eight 4. Nine or more

10. Were you or are you a member of a youth group such as Boy Scouts, Girl Scouts, 4-H, Future Farmers of America or a similar group?

    1. Yes 2. No

11. How old are you? (1) 1-12 (2) 13-19 (3) 20-29 (4) 30-39 (5) 40-49
    (6) 50-59 (7) 60-69 (8) 70 or older

Circle the number of your response to each question

12. You are a - - - 1. Male 2. Female

13. You are - - - 1. Single 2. Married 3. Divorced 4. Separated 5. Widowed

14. If you are married, how many children do you have?

1. None 2. One 3. Two 4. Three 5. Four 6. Five or more

15. (Optional) Your approximate income level is -

1. Below $4,999 2. $5,000-5,999 3. $6,000-7,499 4. $7,500-9,999
5. $10,000-14,999 6. $15,000-19,000 7. $20,000 and over

16. What is your present occupation?

17. Which statement characterizes your membership?

1. A member of the National Wildlife Federation, Kansas Wildlife Federation, and a local sportsmen's group or conservation orientated group.
2. A member of only the Kansas Wildlife Federation, and a local sportsmen's group or conservation orientated group.
3. A member of only a local sportsmen's group or conservation orientated group.
4. A member of only the National Wildlife Federation.
5. Not now a member of either the National Wildlife Federation, Kansas Wildlife Federation, local sportsmen's group or conservation orientated group.
6. Don't understand the question.

18. Are you or have you been an officer or committee member in the National Wildlife Federation, Kansas Wildlife Federation, local sportsmen's group or conservation orientated group.

1. Yes (If so, please state position _____)
2. No
3. Currently a candidate

19. What is the highest education level you have achieved?

1. Grade School 2. Two years of High School 3. High School diploma
4. Two years of college 5. Technical schooling 6. B.S. or equivalent
7. Graduate degree 8. Professional degree (doctor, dentist, veterinary)

20. While in school, did you study any phase of conservation?

1. Yes 2. No 3. Don't remember

21. The work of a wildlife or fisheries biologist is similar to the work of

1. Forest ranger (studies forestry, manages forests for lumber production)
2. Game protector (answers questions of sportsmen and enforces the laws)
3. Research biologist (studies animal life habits, histories, populations, habitat and manages wildlife as a crop)

Circle the number of your response to each question

22. Fish and game regulations should be based upon which one of the following?

1. Sound biological principles (understanding the needs of wildlife, providing these needs and harvesting the wildlife crop)
2. Desires of the sportsmen (setting seasons to meet the demands of the sportsmen, bag limits and harvest method)
3. Combination of both biological principles and desires of the sportsmen

23. Fish and game management should be based upon a combination of -

1. Regulations, laws, predator controls, refuge systems, stocking and habitat management.
2. Regulations, laws, refuge systems and habitat management.
3. Regulations, laws stocking programs and predator controls.

24. Last year Kansas was among which group of states in the number of fish killed by pollution?

1. Top ten states
2. Middle group of states
3. Lowest ten states

25. Which do you feel created the greatest uncontrolled pollution problem in Kansas last year?

1. Industrial wastes 2. Agricultural wastes 3. Municipals wastes
4. Other _____

26. Which statement do you feel explains the condition of a lake that once had good fishing, but now a large number of small fishes and few large ones are caught?

1. The lake has been fished out
2. Over fishing for some species and underfishing of other species
3. Other _____

27. Does part of the federal excise tax paid on sporting firearms and ammunition support wildlife management and research?

1. Yes 2. No 3. Don't know

28. What is your feeling about habitat management in providing game animals for recreational purposes?

1. It is effective 2. It is not effective

29. Do you believe it is a wise conservation practice to return bluegill, crappie and panfish and bullheads you catch while fishing in a farm pond?

1. Yes 2. Don't know 3. No

Circle the number of your response to each question

30. Do you feel predators need to be controlled to maintain good wildlife populations for hunting?

    1. Yes 2. No 3. Only in a few instances

31. Where does most of the money for the operation of the Kansas Forestry, Fish and Game Commission originate?

    1. State Sales Tax
    2. State Property Tax
    3. State Income Tax
    4. Other sources _____

32. Do you believe stocking native wildlife species in an area where that animal has an established population helps to increase wildlife populations for hunting purposes? 1. Yes 2. No 3. Sometimes

33. Stocking wildlife within its established range to place game in the hunter's bag is - 1. Expensive 2. Inexpensive

34. Should hunting hen pheasants be permitted under proper regulations?

    1. No 2. Yes 3. Sometimes 4. Other _____

Thank you for your assistance in answering this questionnaire. Please enclose the questionnaire in the envelope provided and mail. Thank you.

Respectfully,

Donald E. Zimmerman
Graduate Student, Technical Journalism

COMMENTS:

Fig. 3. The final cover letter used, first mailing

Kansas State University

Manhattan, Kansas 66502

Department of Technical Journalism
Kedzie Hall

February 16, 1968

Dear Sportsman:

Would you please answer the enclosed questionnaire on your sources of wildlife conservation information.

The information gathered from this questionnaire will be incorporated as part of my master's degree thesis in Conservation Journalism at Kansas State University. The study is possible through the cooperative efforts of the National Wildlife Federation, the Kansas Wildlife Federation, Kansas State University and the Kansas Forestry, Fish and Game Commission.

The objective of this study is to learn something about you--the sportsman, your sources of conservation information and your understanding of some conservation practices. This study will benefit you by giving the outdoor writer a better understanding of you--the sportsman. By knowing and understanding sportsmen better, the outdoor writer will be able to write more effectively and to inform you of current conservation practices.

Enclosed is a questionnaire and stamped addressed envelope so you may return the questionnaire to me. Please answer the questions by circling your response. The questionnaire can be answered in five minutes. Your questionnaire will remain strictly confidential.

Thank you for your cooperation and assistance with this project.

Respectfully,

Donald E. Zimmerman
Graduate Student
Technical Journalism

Fig. 4. Covering letter for second mailing

Kansas State University

Manhattan, Kansas 66502

Department of Technical Journalism
Kedzie Hall

March 1, 1968

Dear Sportsman :

Would you please answer the enclosed questionnaire on your sources of wildlife conservation information.

About two weeks ago you were mailed a questionnaire requesting information on your sources of conservation information. I haven't heard from you yet and would like to include your responses as part of my study.

Even if you don't hunt or fish, your sources of conservation information and understanding of wildlife conservation practices is important to the outdoor writer preparing articles for people interested in any phase of outdoor activity.

The information gathered from this questionnaire study will be incorporated as part of my master's degree thesis in Conservation Journalism at Kansas State University. The study is possible through the cooperative efforts of the National Wildlife Federation , the Kansas Wildlife Federation, Kansas State University and the Kansas Forestry, Fish and Game Commission.

The objective of this study is to learn something about you--the sportsman, your sources of conservation information and your understanding of some conservation practices. This study will benefit you by giving the outdoor writer a better understanding of you--the sportsman. By knowing and understanding sportsmen better, the outdoor writer will be able to write more effectively and to inform you of current conservation practices.

In case the first questionnaire was lost, another one and stamped envelope has been enclosed so you may return the questionnaire to me. Please answer the questions by circling your response. The questionnaire can be answered in five minutes. Your questionnaire will remain strictly confidential.

Thank you for your cooperation and assistance with this project.

Respectfully,

Donald E. Zimmerman

Donald E. Zimmerman
Graduate Student
Technical Journalism

Fig. 5. Final questionnaire, mimeographed on yellow paper and green paper for the first mailing, and on brown paper and blue paper for the second mailing.

Circle the number of your response to each question

1. How often do you listen by radio to a conservation, outdoor recreation, hunting or fishing program?

   1. Never 2. Seldom 3. Occasionally 4. Often 5. Always
   Please list your favorite _____

2. How often do you watch a television show on conservation, outdoor recreation, hunting or fishing?

   1. Never 2. Seldom 3. Occasionally 4. Often 5. Always
   List your favorite _____

3. How often do you read a conservation or natural history magazine?

   1. Never 2. Seldom 3. Occasionally 4. Often 5. Always
   List your favorite _____

4. How often do you read a hunting, fishing, camping or outdoor recreation magazine?

   1. Never 2. Seldom 3. Occasionally 4. Often 5. Always
   List your favorite _____

5. How often do you read a conservation, outdoor recreation, hunting or fishing column or page in a newspaper?

   1. Never 2. Seldom 3. Occasionally 4. Often 5. Always
   List your favorite _____

6. How often have you requested conservation literature or information from a state game commissionor federal agency controlling natural resources?

   1. Never 2. Once a year 3. Two to five times a year 4. Six or more times a year

7. How many wildlife conservation, natural history or natural resource books have you read in the last five years?

   1. None 2. One 3. Two to five 4. Six to eleven 5. Twelve or more
   List your favorite _____

8. How many books on hunting, fishing or outdoor recreation have you read in the last five years?

   1. None 2. One 3. Two to five 4. Six to eleven 5. Twelve or more

9. How many conservation, outdoor recreation, hunting or fishing movies, lectures, or slide shows have you seen or attended in the last year? (Do not include those you may have seen on television)

   1. None 2. One to three 3. Four to eight 4. Nine or more

10. Were you or are you a member of a youth group such as Boy Scouts, Girl Scouts, 4-H, Future Farmers or similar group? 1. Yes 2. No

Circle the number of your response to each question

11. How old are you? 1. Under 5 2. 5-17 3. 18-44 4. 45-64 5. Over 65

12. You are 1. Male 2. Female

13. You are 1. Single 2. Married 3. Divorced 4. Separated 5. Widowed

14. If married, how many children do you have?

    1. None 2. One 3. Two 4. Three 5. Four 6. Five or more

15. (Optional) Your approximate income level is 1. Under $3,000 2. $3,000-4,999 3. $5,000-6,999 4. $7,000-9,999 5. $10,000-14,999 6. $15,000 and over

16. What is your present occupation? _____

17. Which statement characterizes your membership?

    1. A member of the National Wildlife Federation, Kansas Wildlife Federation, and a local sportsmen's group or conservation orientated group.
    2. A member of only the Kansas Wildlife Federation and a local sportsmen's group or conservation orientated group.
    3. A member of only a local sportsmen's group or conservation orientated group.
    4. A member of only the National Wildlife Federation.
    5. Not now a member of either the National Wildlife Federation, Kansas Wildlife Federation, local sportsmen's group or conservation orientated group.
    6. Don't understand the question.

18. Are you or have you been an officer or committee member in the National Wildlife Federation, Kansas Wildlife Federation, local sportsmen's group or conservation orientated group?

    1. Yes (If so, please state position _____)
    2. No
    3. Currently a candidate

19. What is the highest grade you finished in school?

    1. Some grade school 2. Grade school 3. Some high school 4. High school diploma 5. Some college 6. B.S. or equivalent 7. Graduate degree (M.S., Ph.D.) 8. Professional degree (Doctor, dentist, veterinary)

20. While in school, did you study biology or any phase of conservation?

    1. Yes 2. No 3. Don't remember

21. The work of a wildlife or fisheries biologist is similar to the work of

    1. Forest ranger (studies forestry, manages forests for lumber production)
    2. Game protector (answers questions of sportsmen and enforces laws)
    3. Research biologist (studies animal life habits, histories, populations and manages wildlife as a crop)
    4. Other (specify) _____

Circle the number of your response to each question

22. Fish and game regulations should be based upon which one of the following?

1. Sound biological principles (understanding the needs of wildlife, providing these needs and harvesting the wildlife as a crop)
2. Desires of sportsmen (setting seasons to meet the demands of the sportsmen, also the bag limits and harvest methods)
3. Combination of both biological principles and desires of the sportsmen

23. Fish and game management should be based on a combination of

1. Regulations, laws, predator controls, refuge systems, stocking and habitat management
2. Regulations, laws refuge systems and habitat management
3. Regulations, laws, stocking programs and predator controls
4. Other (specify) _____

24. Last year Kansas was among which group of states in the number of fish killed by pollution?

1. Top 10 states 2. Middle 30 states 3. Lower 10 states

25. Which do you feel created the greatest uncontrolled pollution problem in Kansas last year?

1. Industrial wastes 2. Agricultural wastes 3. Municipal wastes
4. Other (specify) _____

26. Which statement do you feel explains the condition of a lake that once had good fishing, but now has only a large number of small fishes and few large fish caught?

1. The lake has been fished out
2. Overfishing for some species and underfishing for other species
3. Other (specify) _____

27. Does part of the federal excise tax paid on sporting firearms and ammunition pay for wildlife management and research?

1. Yes 2. No 3. Don't know

28. What is your feeling about managing land, plants and water (habitat management) to provide game animals for recreational purposes?

1. It is effective 2. It is not effective 3. I have no opinion

29. Do you believe it is wise conservation practices to return bluegill, crappie and panfish and bullheads you catch while fishing in a farm pond?

1. Yes 2. No 3. Don't know

30. Do you feel predators as coyotes and fox need to be controlled to maintain good wildlife populations for hunting?

1. Yes 2. No 3. Only in a few instances. 4. Don't know

Circle the number of your response to each question

31. Where does most of the money for the operation of the Kansas Forestry, Fish and Game Commission come from?

    1. State sales tax 2. State property tax 3. State income tax
    4. Other sources _____

32. Do you believe stocking native wildlife in areas where such animals have established populations helps to increase wildlife populations for hunting?

    1. Yes 2. No 3. Sometimes 4. Don't know

33. Stocking wildlife in its established range to provide game for hunters is

    1. Expensive 2. Inexpensive

34. Should hunting hen pheasants be permitted under proper regulations?

    1. Yes 2. No 3. Sometimes 4. Don't know 5. Other _____

35. Do you receive and read a mimeographed letter on conservation or natural resources through the mail?

    1. Yes 2. No 3. Received, but don't read it regularly

Thank you for your assistance. Please enclose the questionnaire in the envelope provided and mail. Thank you.

Respectfully,

Donald E. Zimmerman
Graduate Student
Technical Journalism

Optional: Using the back of the questionnaire discuss what kind of information you'd like to get more of and how you'd like to have it available.

APPENDIX III

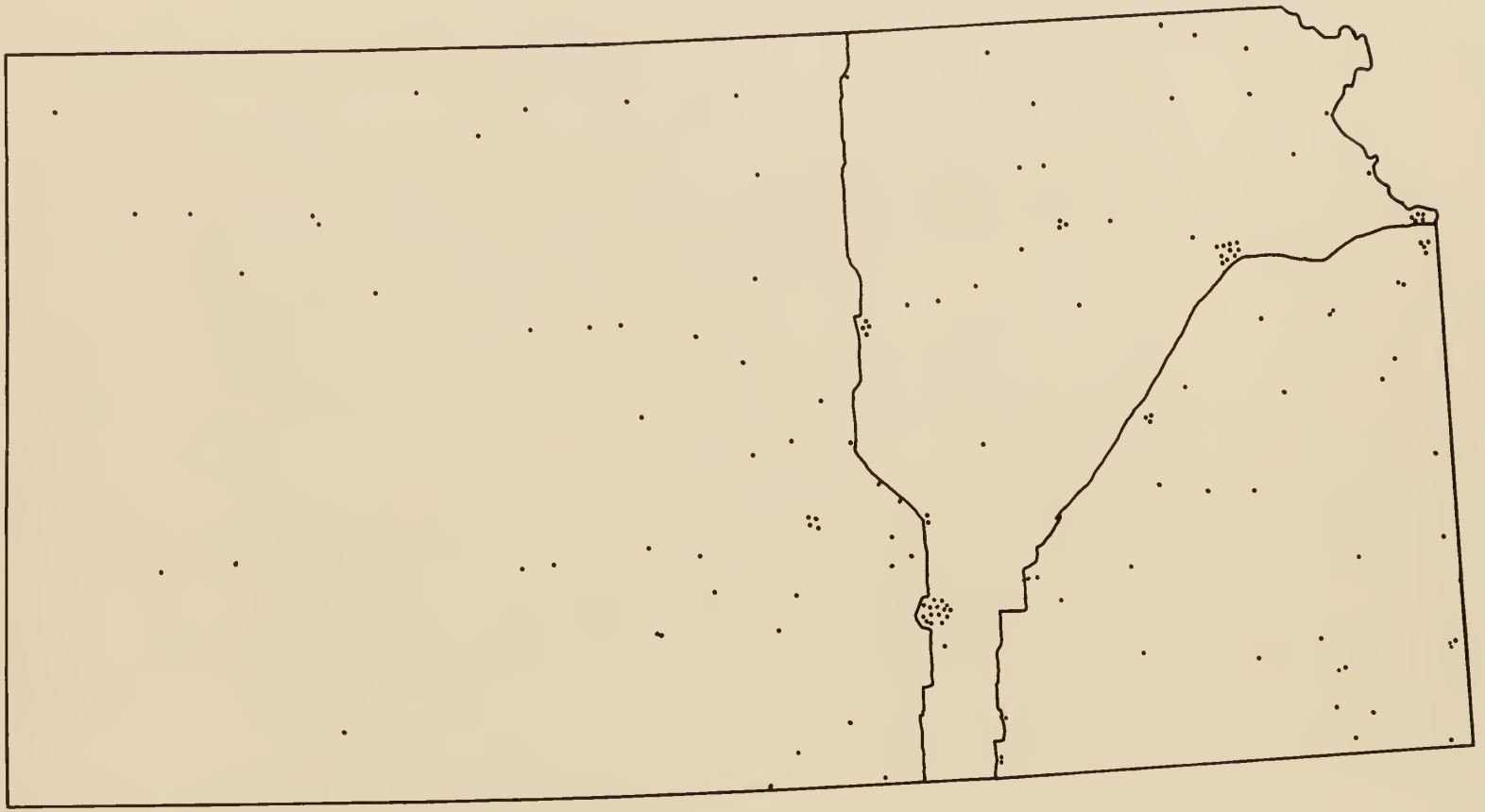

Fig. 6. Distribution of Kansas Fish and Game magazine respondents to the first mailing.

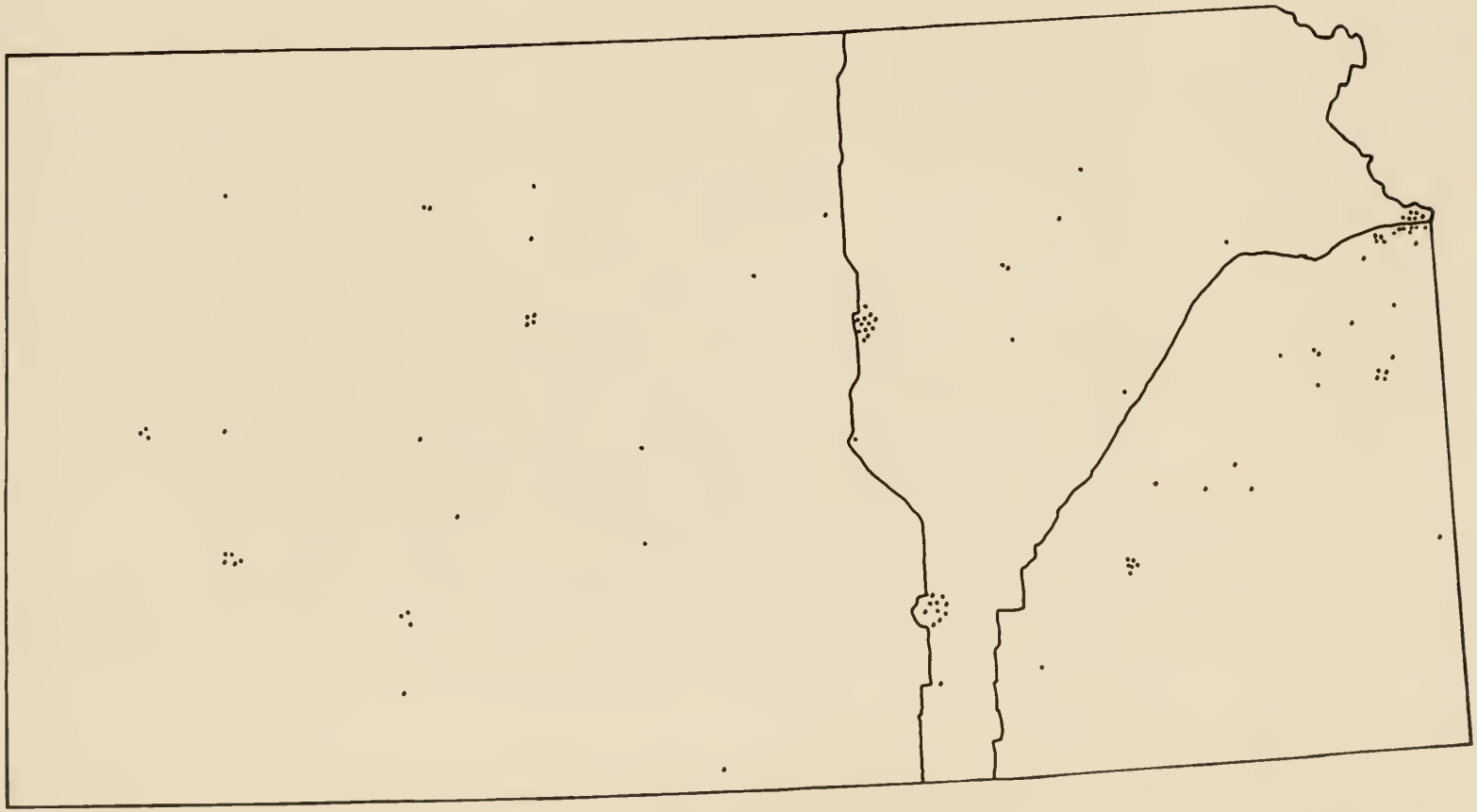

Fig. 7. Distribution of Kansas Wildlife Federation roster respondents to the first mailing.

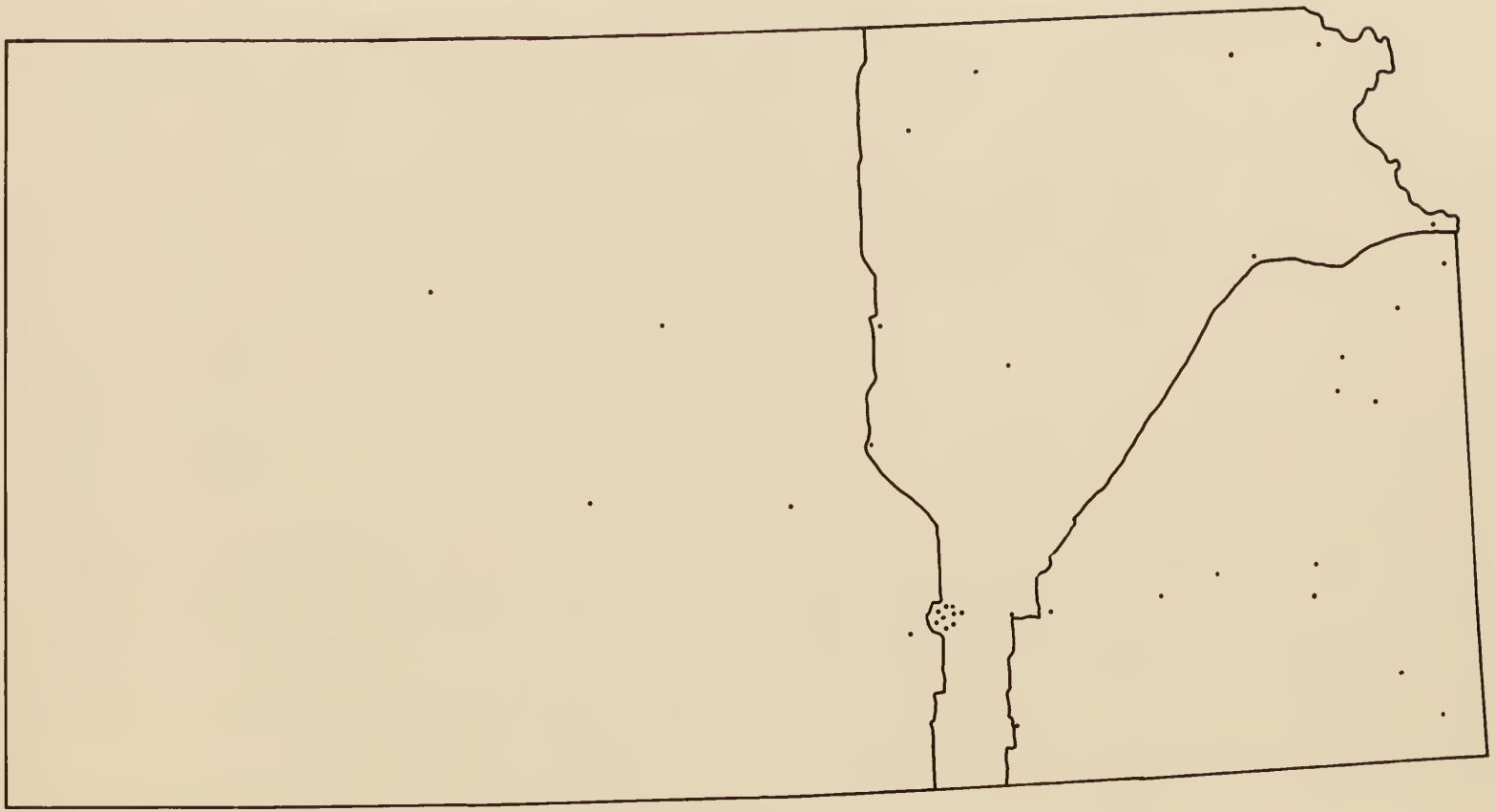

Fig. 8. Distribution of the Kansas Fish and Game magazine respondents to the second mailing.

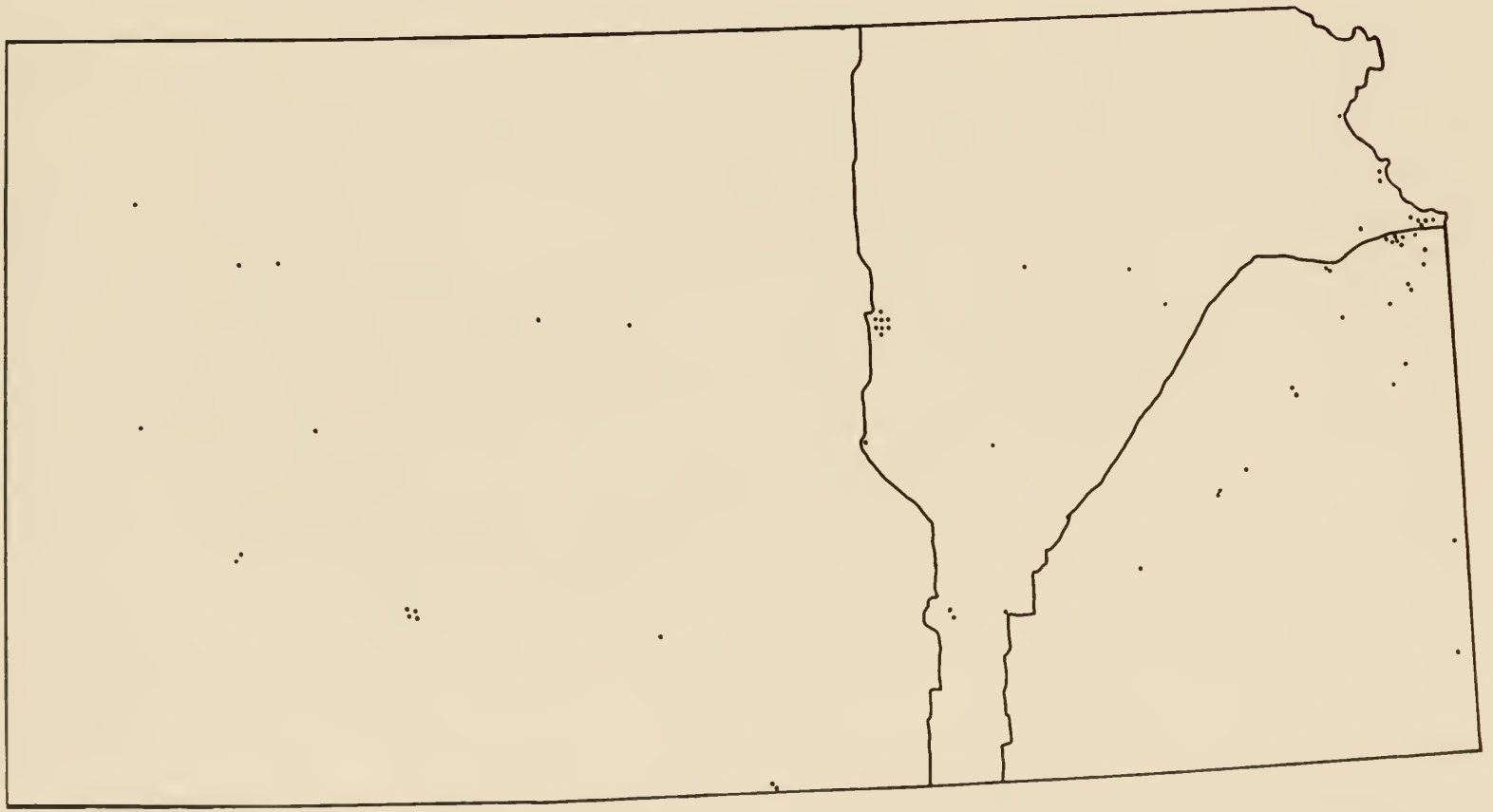

Fig. 9. Distribution of Kansas Wildlife Federation roster respondents to the second mailing.

Acknowledgements

The author appreciates the assistance of Assistant Professor P. Delbert Brinkman, Professor Ralph L. Lashbrook, Dr. Lowell Brandner, Dr. John L. Zimmerman, Dr. Arlin Feyerherm and Dr. Robert J. Robel during graduate school and this study.

The study would have been impossible without the cooperation of other persons in wildlife work who kindly permitted use of their membership or mailing lists: Thayne Smith, Chief of Information-Education for the Kansas Forestry, Fish and Game Commission; Bob Williams, 1967 vice-president of the Kansas Wildlife Federation; Frank Enloe, 1966 president of the Kansas Wildlife Federation; and the board of directors of the Riley County Fish and Game Association.

Thanks go to members of the Riley County Fish and Game Association, members of the Kansas Wildlife Federation and individuals on the mailing list of the Kansas Fish and Game magazine who answered the questionnaires, to Roberta Winn of the Denver Public Library Conservation Center, Dr. Douglas Gilbert of Colorado State University and Professor Clarence Schoenfeld of Wisconsin State University for suggesting literature to review and to the journalism professors who answered letters of inquiry trying to locate conservation journalism theses.

Financial assistance for this study was a 1967-68 National Wildlife Federation fellowship.

Letterheads for the covering letter were provided by the Department of Technical Journalism, Kansas State University. Assistance with the statistics was provided by the University's Department of Statistical and Computer Science.

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DETERMINATION OF THE SOURCES OF CONSERVATION INFORMATION AND CHARACTERISTICS OF SELECTED KANSAS SPORTSMEN

by

DONALD E. ZIMMERMAN

B.S., Kansas State University, 1966

AN ABSTRACT OF A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

Department of Technical Journalism

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1968

Few studies of the audience use of the conservation mass media information sources have been completed. This study was designed to analyze a selected audience's use of the conservation mass media.

Of the questions to be answered by this study, the most important were:

1. What is the frequency of use of the conservation mass media?

2. Is there a significant relation within the mass media used, within the conservation attitudes, and between the mass media used, the demographic characteristics, and the conservation attitudes?

Two populations were studied. Two hundred fifty names were selected at random from the membership roster of the Kansas Wildlife Federation, and two hundred fifty names were selected by a systematic sample from the names of individuals on the mailing list of the Kansas Fish and Game magazine. The names of thirty-two officers of the Kansas Wildlife Federation were also obtained.

A 35 question questionnaire was designed to obtain data for analysis. A questionnaire packet of a questionnaire, a covering letter, a stamped return addressed envelope and a mailing envelope was mailed to all individuals sampled. A second questionnaire packet with a new covering letter was mailed to the nonrespondents at the end of two weeks. Two weeks after the second mailing, 363 usable questionnaires, 68.5 per cent, had been returned. The data was then tabulated.

The conclusions drawn from the data collected can be applied only to the respondents.

Totaling the use frequencies of occasionally, often and always, 88.7 per cent viewed outdoor or conservation television shows, 83 per cent read hunting or fishing or related sporting magazines, 78.6 per cent listened to outdoor, sporting conservation radio programs and 60.6 per cent read conserva-

tion radio programs and 60.6 per cent read conservation magazines. Twenty-four and four-tenths per cent requested information from a conservation agency two or more times a year. In the last five years, reading by respondents was not a common practice; 11.6 per cent had read six or more conservation books while 21 per cent had read six or more sporting books. Sixteen and three-tenths per cent had viewed four or more outdoor recreation or conservation presentations in 1967.

The Chi square statistic was used to compare the relationship of the responses to each question and characteristic. Of 741 possible comparisons, 94 were detected statistically significant at the .05 level, 98 at the .01 level and 33 at the .001 level.

Three of the mass media conservation information sources compared were significant at the .05 level, 3 at the .01 level and 30 at the .001 level. Twenty-four of the mass media conservation information sources and conservation attitudes compared were detected statistically significant at the .05 level, 7 at the .01 level and 10 at the .001 level. Seventeen of the mass media conservation information sources and demographic characteristics compared were detected statistically significant at the .05 level, 6 at the .01 level and 7 at the .001 level.