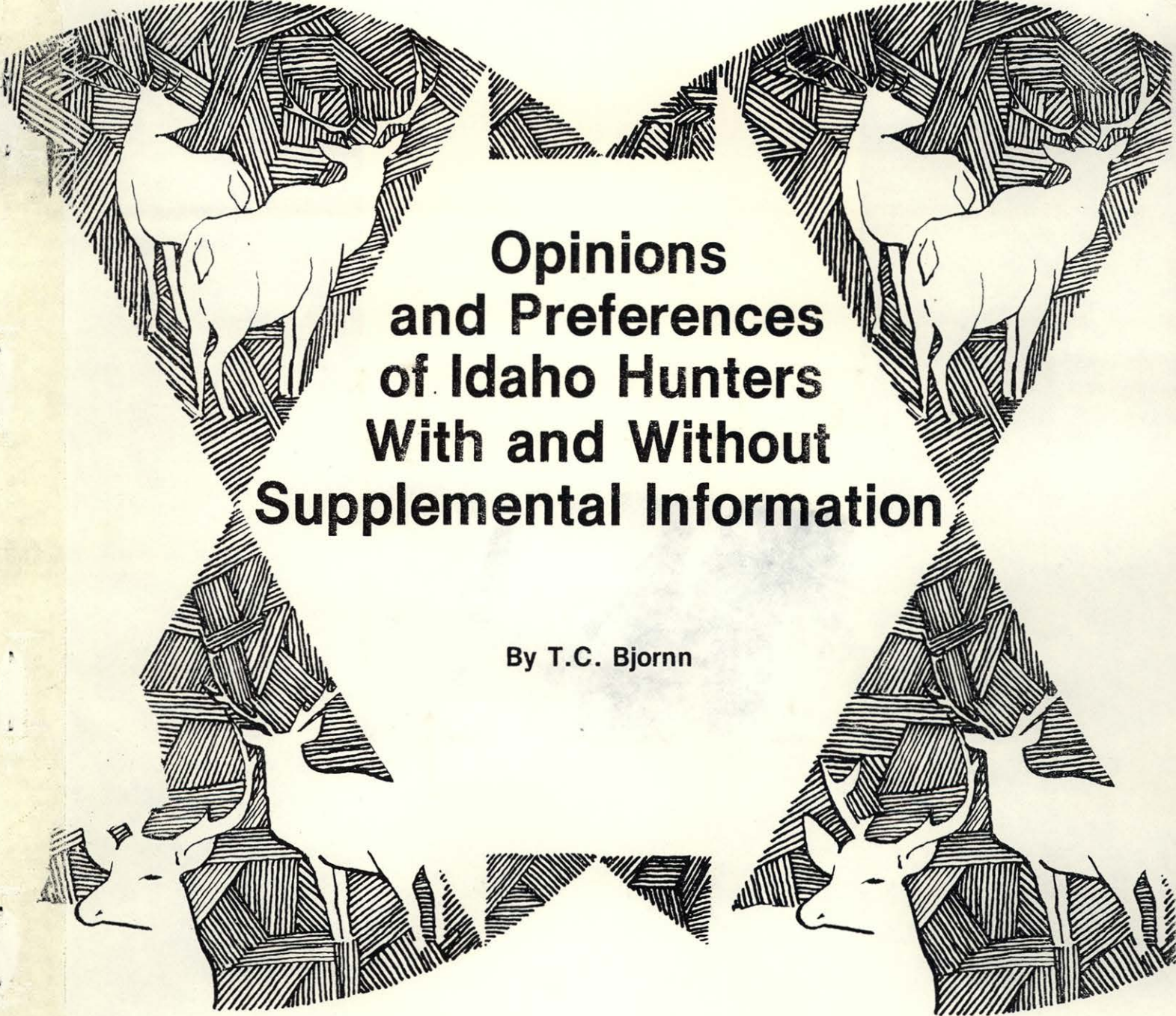




1975

Technical Report
Number 4

College of Forestry, Wildlife and Range Sciences



Opinions and Preferences of Idaho Hunters With and Without Supplemental Information

By T.C. Bjornn

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**OPINIONS AND PREFERENCES
OF IDAHO HUNTERS
WITH AND WITHOUT SUPPLEMENTAL INFORMATION**

by
T. C. Bjornn
Idaho Cooperative Fishery Research Unit

A Final Report
from
FEDERAL AID TO WILDLIFE RESTORATION
Project W-152-R
HUNTER PREFERENCE AND ECONOMIC STUDY
of the
IDAHO DEPARTMENT OF FISH AND GAME

Funds for this survey provided by the Idaho Department of Fish and Game (Federal Aid to Wildlife Restoration funds, Project W-152-R), University of Idaho and U.S. Fish and Wildlife Service.

Contribution No. 15
of the
Forest, Wildlife and Range Experiment Station
University of Idaho
Moscow, Idaho 83843

1975

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OPINIONS AND PREFERENCES
OF FOOD BUYERS
WITH AND WITHOUT SUPPLEMENTARY INFORMATION

1. Introduction

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ABSTRACT

We sent questionnaires to two groups of Idaho residents (primary and special surveys) who purchased hunting licenses in 1971 to compare their opinions and preferences to questions when we did or did not provide background information related to the tradeoffs associated with the alternative choices on wildlife management issues. We sent questionnaires without supplemental information to 7,602 residents in the primary survey and questionnaires with supplemental information for some questions to 1,928 residents in the special survey. Fifty-four percent of the residents in the primary survey and 52 percent in the special survey completed and returned their questionnaires.

The residents in the two surveys were drawn from the same file of license application stubs and had the same demographic characteristics of age, sex, occupation, income and years hunted in Idaho. The responses of residents of the two surveys to questions without supplemental information were nearly identical, an indication that differences in response to questions with supplemental information probably resulted from the information provided.

The supplemental information provided in the special survey questionnaire changed the response of some residents to questions involving Department of Fish and Game policies or where the residents needed more information on biological constraints involved. For example, the percentage of residents who approved the commission's limitation of out-of-state hunters or department's policies on managing big game numbers or winter feeding increased when the limitations and policies were explained in the supplemental information.

The supplemental information had little effect on the responses of residents to questions involving social or economic judgements. Resident hunters wanted to restrict out-of-state hunters regardless of the information we provided on the economic contribution of non-resident hunters to the general economy of the state or funds provided to the Department of Fish and Game for wildlife management. Half the residents wanted the department to increase big game herds through supplemental winter feeding in spite of the expense and need for research we outlined in the supplemental information.

When significant shifts in response between people in the primary and special surveys did occur, the response of residents to the questions with supplemental information was more like the response of Department of Fish and Game employees to the same questions. Significant differences of opinion or preference still existed on many issues between department employees and residents who had received supplemental information similar to that available to wildlife managers.

INTRODUCTION

In 1971, Idaho Department of Fish and Game administrators initiated a project to obtain information from hunters who used Idaho wildlife resources. The primary part of the project was a questionnaire survey of Idaho residents and non-residents who hunted in Idaho in 1971 (Bjornn and Dalke 1975). The questionnaire used in the primary survey (Fig. 1) was designed to obtain a description of the people who hunt in Idaho, their hunting activities, and their opinions and preferences on important issues related to hunting and management of wildlife in Idaho. We also sent the primary survey questionnaire to employees of the Idaho Department of Fish and Game to assess their opinions and preferences on the same issues and compare their responses with the responses of resident hunters (Bjornn 1975). The responses to the questions in the primary survey questionnaire by resident and non-resident hunters and Department of Fish and Game employees were based on the experiences and knowledge of the individuals who completed the questionnaire. We asked the people to choose between alternatives but we did not provide information on the trade-offs associated with each alternative.

We designed a second questionnaire (Fig. 2) with supplemental information provided with some of the questions. We sent the second questionnaire to a separate group of resident hunters to determine if their opinions and preferences were different from those in the primary survey when provided with the information on trade-offs associated with each alternative. We attempted to provide an impartial statement of facts concerning each alternative.

SURVEY METHODS

Both the questionnaire without supplemental information (used in the primary survey) and the questionnaire with supplemental information contained questions to obtain demographic information on licensed hunters in each survey. The questionnaire used in the special survey contained nine questions from the primary questionnaire without supplemental information added, either because it was not appropriate or we deliberately chose not to provide the supplemental information (Table 1). We added supplemental information to 11 questions from the primary

**GOOD MANAGEMENT
REQUIRES GOOD INFORMATION**



**A SURVEY
of
RESIDENT
IDAHO
HUNTERS**

College Of Forestry, Wildlife
And Range Sciences
University of Idaho
Moscow

Dear Hunter:

This questionnaire is designed to assess your preferences and attitudes on a number of key issues and problems in Idaho wildlife management, your expenditures while hunting in Idaho, and to provide background information to help us describe people who hunt in Idaho. This is an opportunity for you to participate in decisions regarding the future management of wildlife in Idaho. Please take the time to provide us with the information requested.
Thank you.

1. How many years have you hunted each category of game in Idaho, and which type of hunting do you most prefer (Rank from 1 to 3)? Then list the one species in each category that you most prefer to hunt.

	Years Hunted	Rank	Preferred Species
Big Game	_____	_____	_____
Upland Birds	_____	_____	_____
Waterfowl	_____	_____	_____

2. Rank (1 to 3) the three most important sources of your information about hunting and fishing regulations and wildlife management programs in Idaho:

- Hunting and fishing magazines
- Newspapers
- Television
- Radio
- License vendors
- Fish and Game Department regulations
- Idaho Wildlife Review
- Friends-hunting companions
- Sportsmen club meetings
- Other (List) _____

3. Please estimate the number of miles your personal vehicle was driven in Idaho during SEPTEMBER, 1971, when you hunted:

	Miles driven
Big Game	_____
Upland Birds	_____
Waterfowl	_____

4. For each species of wildlife you hunted in Idaho during SEPTEMBER, 1971, please list the number of days you hunted in each area (See Map).

Species Hunted	Days Spent Hunting in Each Area:			
	Area	Days	Area	Days
Only Elk
Only Deer
Deer & Elk
Antelope
Ducks
Geese
Chukars
Quail
Pheasant
Forest Grouse
Other
(list)

5. Please indicate if you hunted in Idaho during SEPTEMBER, 1971. If you bagged some game, list the species and number taken.

	Hunted in September?		Species and number bagged
	Yes	No	
Big Game	<input type="checkbox"/>	<input type="checkbox"/>
Upland Birds	<input type="checkbox"/>	<input type="checkbox"/>
Waterfowl	<input type="checkbox"/>	<input type="checkbox"/>

6. Why do you go hunting? Rank in order of importance (1 to 3) the three major reasons why you hunt with "1" the most important.

- Meat
- Trophy
- Companionship
- Isolation
- Observe Wildlife
- Relaxation-change of pace
- Opportunity to get out-of-doors
- Challenge of the hunt
- Do not hunt
- Other (list) _____

7. If you hunt for big game, which type of animal do you most prefer? (Check ONE for each species).

	Deer	Elk	Antelope
No preference	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fawn, calf, or kid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does or cow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Small buck or bull	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Large buck or bull	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Please mark the term below which best describes your degree of satisfaction with your hunting in Idaho (Check ONE in each game category)

	Big Game	Upland Birds	Water-fowl
Unsatisfactory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Excellent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Satisfactory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No Opinion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. If you were not completely satisfied while hunting in Idaho, which reason was the most responsible for your lack of satisfaction? Check the single most important reason for each game category.

	Big Game	Upland Birds	Water-fowl
Did not bag game sought	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Too many hunters in the area hunted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not enough game	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outfitter and guide services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(describe) _____

10. Which of the following best expresses your feeling regarding out-of-state hunters and hunting of wildlife in Idaho? (Check ONE)

- Allow unrestricted numbers of out-of-state hunters in Idaho.
- Restrict the number of out-of-state hunters in Idaho.
- No Opinion.

If you believe out-of-state hunters should be restricted, which of the following do you prefer? (Check ONE)

- Out-of-state hunters should be allowed to hunt only in those areas where residents do not adequately harvest the game.
- Restrict the number of out-of-state hunters to 20% , 10% , or 5% of all hunters.
- No out-of-state hunters should be allowed to hunt in Idaho.

11. If you hunted in Idaho during 1971, which of the categories below best describes your experiences with regard to competition with the out-of-state hunters? (Check ONE for each game category)

	Big Game	Upland Birds	Water-fowl
Not noticeable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Noticeable, but not objectionable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Too much competition from non-residents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No Opinion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. Which of the following best expresses your feeling regarding the Fish and Game Commission's limitation on the number of out-of-state big game hunters in 1971? (Check ONE)

- Should have allowed more out-of-state hunters.
- Should have reduced the number of out-of-state hunters further.
- Allowed about the right number.
- Do not know about restrictions.
- No Opinion.

13. If the number of out-of-state hunters were significantly restricted, would you be willing to pay increased annual fees to help make up for the lost revenue from license and tag sales?

	If yes, how much?			
	No	\$1	\$3	\$5 More
Hunting Licenses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Elk Tag	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Deer Tag	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. Which of the following best describes your views regarding the distributing of supplemental salt for big game in certain areas? (Check ONE)

- Necessary and should be continued or expanded.
- Unnecessary and should be curtailed or stopped.
- No Opinion.

Figure 1. The questionnaire used in the primary survey.

15. As the number of hunters increases, "quality" hunting areas tend to become "quantity" hunting areas unless actions are taken to limit the number of hunters and harvests. Which of the following do you most prefer? (Check ONE)

- Manage each herd for quantity hunting (maximum harvest, open season with no restrictions on number of hunters, lower rate of success.)
- Manage each herd for quality hunting (trophy animals, less than maximum harvest of animals, low density of hunters through use of special permits, higher rate of success).
- Manage some herds for quality hunting and the remainder for quantity hunting.
- No Opinion.

16. In those instances where the harvest of deer and elk must be reduced in certain management units, which do you most prefer? (Check ONE)

- Shorter general season.
- Controlled hunt with number of hunters regulated by drawing thus regulating the number of animals harvested but a longer season allowed.
- No Opinion.

17. When an increased harvest of deer is necessary in a particular management unit, which one of the following methods would you most prefer? (Check ONE)

- Increased length of seasons, one deer per hunter on regular tag.
- Provide extra deer tags so that hunters may take an additional deer.
- No Opinion.

18. In your opinion is the amount and condition of vegetation on big game winter range the proper basis for managing big game populations? (Check ONE)

- Yes No No Opinion

19. Do you have confidence in the Idaho Fish and Game Department's figures on game counts and annual harvest? (Check ONE for each category)

- | | | | | |
|------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | Yes | No | Skeptical | No Opinion |
| Game counts | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Annual Game Kill | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

20. Please indicate if you believe the Fish and Game Department should place more, less, or no change in the emphasis on all the activities listed below. Then rank (1 to 3) the three activities you believe are most important.

	More	Less	No Change	Rank
<input type="checkbox"/> Predator control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Habitat improvement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Law enforcement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Management programs (check stations, game and bird counts, trans-planting etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Game farms for "put and take" bird shooting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Emergency winter feeding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Acquisition of wildlife areas (winter range, waterfowl marshes, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Improved access to hunting areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Public information programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Research and evaluation of programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Others (describe)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21. Do you believe the Fish and Game Department is doing a satisfactory job of managing the following species. (Check ONE for each species)

	Yes	No	No Opinion
Deer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Elk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trophy animals (sheep, goats, moose)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Antelope	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pheasants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sage grouse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Forest grouse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chukar partridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Waterfowl	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

22. Which of the following best expresses your opinion of supplemental winter feeding to attempt to artificially increase the abundance of deer or elk (Check ONE)?

- The Department should not attempt to increase big game herds in excess of the natural carrying capacity of winter range.
- The Department should attempt to increase big game herds through supplemental winter feeding.
- No Opinion.

Do you approve or disapprove of the Fish and Game Department's current policy on (1) regulating big game numbers and (2) emergency winter feeding? (Check ONE in each column)

	Big Game numbers	Winter feeding
Approve	<input type="checkbox"/>	<input type="checkbox"/>
Disapprove	<input type="checkbox"/>	<input type="checkbox"/>
No Opinion	<input type="checkbox"/>	<input type="checkbox"/>
Do not know policy	<input type="checkbox"/>	<input type="checkbox"/>

23. Which of the following best describes your feelings on roads as related to big game hunting? (Check ONE)

- Roads in the big game areas provide improved access and easier hunting, and I believe more should be constructed in the future.
- Present access to big game areas by roads is adequate and no more roads are needed. New roads for logging should be closed to public use after logging.
- Overcrowding of big game hunting areas has already occurred because of too many roads. No new roads should be constructed and some existing roads should be closed.
- No Opinion.

24. What are your feelings about hunting hen pheasants? (Check ONE)

- Hen pheasants should not be hunted at any time.
- Limited numbers of hen pheasants should be taken by hunters under special regulations, seasons or bag limits.
- Both cocks and hens should be hunted without restriction, same as other game birds.
- No Opinion.

25. Which of the following best describes your views concerning hunting provided by game farm pheasants? (Check ONE)

- Providing hunting with game farm pheasants is a good program and should be continued.
- "Put and shoot" hunting for game farm pheasants is a poor use of license fees and should not be continued.
- No Opinion.

26. The pheasant season in southern Idaho opens at noon rather than daylight. Which of the following best expresses your feelings? (Check ONE)

- I am satisfied with the noon opening for pheasants.
- I prefer an early morning opening for pheasants.
- No Opinion.

27. When do you most prefer to hunt bear in Idaho? (Check ONE)

- Fall
- Spring
- Fall and Spring
- Year Round
- No Opinion

Should bear hunting with hounds be permitted? Yes No No Opinion

If yes, which would you most prefer? (Check ONE)

- In the Fall Only
- In the Spring Only
- In Fall and Spring
- Year Round

28. Please list your Age Sex Occupation

29. What was the approximate total yearly income of your family in 1971? (Check ONE)

- Under \$2,999
- \$3,000-4,999
- \$5,000-6,999
- \$7,000-9,999
- \$10,000-14,999
- \$15,000-19,999
- \$20,000-24,999
- \$25,000 or over

30. This question deals with the cost of your hunting trip(s) and is particularly important. Please estimate the cost of your hunting only. Do not include expenses paid by you for another person(s), but do include your expenses paid by someone else. What were your expenses while hunting in Idaho during SEPTEMBER, 1971, for:

	Big Game	Upland Birds	Waterfowl
Train, plane, bus fares.....
Lodging (motels, camping fees, etc.).....
Guide and outfitter fees.....
Equipment rental (excluding outfitters fees).....
Taxidermy and tanning (game storage, processing and shipping).....
Miscellaneous supplies.....
Other (list).....

31. Please record below the expenditures you made for equipment items during the last year (since SEPTEMBER, 1970) and how much of the total was spent in Idaho. Please estimate the percentage of the total amount of time you used each equipment item purchased during the last year while hunting in Idaho. For example, if you purchased a camper and you used it a total of 4 weeks, of which one was for a hunting trip in Idaho, you would write down 25%.

Equipment	Total Cost of Equipment Purchased	Cost of Equipment Purchased in Idaho	Percent of total hunting time equipment was used in Idaho last year
Firearms and bows
Boating Equipment (boats, motors, accessories)
Camping equipment (tents, sleeping bags, etc.)
Recreational vehicles (4-wheel drive, campers, etc.)
Special clothing (boots, rainwear, waders, etc.)
Dogs or horses and their care
Miscellaneous (binoculars, etc.)
Other (list)

Thank You

Figure 1. Continued

GOOD MANAGEMENT REQUIRES GOOD INFORMATION



A SURVEY OF IDAHO HUNTERS: 1971



COLLEGE OF FOREST, WILDLIFE AND RANGE SCIENCES
UNIVERSITY OF IDAHO

Dear Hunter:

This questionnaire has been sent to you to assess your preferences and attitudes on a number of key issues and problems in Idaho wildlife management. We have provided a brief summary of pertinent information for some of the questions that might be useful in your judgments. This is an opportunity for you to participate in decisions regarding the future management of wildlife in Idaho. Please take the time to complete the questionnaire and let us know your views.

Thank you.

1. How many years have you hunted each category of game in Idaho, and which type of hunting do you *most* prefer (Rank from 1 to 3)? Then list the one species in each category that you *most* prefer to hunt.

	Years		Preferred Species
	Hunted	Rank	
Big Game
Upland Birds
Waterfowl

2. For each species of wildlife you hunted in Idaho during 1971, please list the number of days you hunted in each area (See Map)

Species Hunted	Days Spent Hunting in Each Area			
	Area	Days	Area	Days
Only Elk
Only Deer
Deer & Elk
Antelope
Ducks
Geese
Chukars
Quail
Pheasant
Forest
Grouse
Other
list

2

3. Please indicate if you hunted in Idaho during 1971. If you bagged some game, list the species and number taken.

	Hunted		Species and number bagged
	Yes	No	
Big Game	<input type="checkbox"/>	<input type="checkbox"/>
Upland Birds	<input type="checkbox"/>	<input type="checkbox"/>
Waterfowl	<input type="checkbox"/>	<input type="checkbox"/>

4. Why do you go hunting? Rank in order of important (1 to 3) the three major reasons why you hunt with "1" the most important.

Meat	.....	Relaxation-change of pace	.....
Trophy	.....	Opportunity to get out-of-doors	.....
Companionship	.....	Challenge of the hunt	.....
Isolation	.....	Do not hunt	.....
Observe Wildlife	.....	Other (list)	.....

5. Please mark the term below which best describes your degree of satisfaction with your hunting in Idaho (Check ONE in each game category)

	Big Game	Upland Birds	Waterfowl
Unsatisfactory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Excellent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Satisfactory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No Opinion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. If you hunted in Idaho during 1971, which of the categories below best describes your experiences with regard to competition with the out-of-state hunters? (Check ONE for each game category)

	Big Game	Upland Birds	Waterfowl
Not noticeable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Noticeable, but not objectionable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Too much competition from non-residents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No Opinion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3

In past years the Fish and Game Department distributed salt for big game animals in certain areas to supplement minerals obtained naturally and as an attempt to attract animals from critical winter ranges earlier in the spring.

Recent studies in Idaho have shown that salt placed at strategic locations had no effect in moving big game off of winter ranges earlier than normal in the spring or holding them on summer range later than normal in the fall.

There has been no conclusive research on the effect of salt on the health and condition of big game animals. However, no indications of salt deficiency have been observed, and productivity of "unsalted" big game herds is as good or better than "salted" herds. Most biologists now believe that although domestic livestock (often restricted in food available) frequently need additional salt, big game animals (free to range widely and eat variety of foods) obtain adequate amounts through the minerals in the plants they normally eat and that additional salt is unnecessary.

Which of the following best describes your views regarding the distributing of supplemental salt for big game in certain areas? (Check ONE)

- Necessary and should be continued or expanded.
- Unnecessary and should be curtailed or stopped.
- No Opinion.

8. Listed below are the annual sales of Idaho hunting licenses to residents and out-of-staters for the last 5 years.

Year	Resident Licenses		Out-of-State Licenses	
	Combination	Hunt only	Combination	Deer Only
1966	103,149	63,841	8,423	3,218
1967	104,198	65,865	8,745	3,185
1968	109,700	68,789	11,735	3,579
1969	116,385	71,296	14,325	4,569
1970	121,616	69,421	11,930	4,917
1971	124,000*	70,000*	9,552	3,821

*Estimate

In 1971 the Idaho Fish and Game Commission limited the number of big game hunt-

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Figure 2. The questionnaire used in the special survey with supplemental information provided with some of the questions.

ing licenses which could be sold to out-of-staters. Sales of out-of-state combination licenses (elk and deer) were limited to 5% of the total resident hunting license sales for the previous year and sales of the deer only out-of-state licenses were limited to 2% of total resident sales.

Which of the following *best* expresses your feeling regarding the Fish and Game Commission's limitation on the number of out-of-state big game hunters in 1971? (Check ONE)

- Should have allowed more out-of-state hunters.
- Should have reduced the number of out-of-state hunters further.
- Allowed about the right number.
- No Opinion.

9. Many big game herds can be managed to provide "quality hunting" or "quantity hunting". Quality hunting, sometimes called trophy hunting, usually means hunting in scenic areas, where game is relatively abundant (particularly trophy bucks or bulls), few other hunters, a high success rate and less than the maximum possible number of animals are harvested each year.

Quantity hunting usually means providing hunting opportunity for a large number of hunters, harvesting the maximum numbers of animals from the herd each year, a lower rate of success because of the large number of hunters, and few trophy animals in the herd because few survive more than 2-3 years.

As the number of hunters increases, "quality" hunting areas tend to become "quantity" hunting areas unless actions are taken to limit the number of hunters and harvests. Which of the following do you *most* prefer? (Check ONE)

- Manage each herd for quantity hunting (maximum harvest, open season with no restrictions on number of hunters, lower rate of success.)
- Manage each herd for quality hunting (trophy animals, less than maximum harvest of animals, low density of hunters through use of special permits, higher rate of success.)
- Manage some herds for quality hunting and the remainder for quantity hunting.
- No Opinion.

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10. In your opinion is the amount and condition of vegetation on big game winter range the proper basis for managing big game populations? (Check ONE)

Yes No No Opinion

11. Do you have confidence in the Idaho Fish and Game Department's figures on game counts and annual harvest? (Check ONE for each category)

	Yes	No	Skeptical	Opinion
Game counts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annual Game Kill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. The amount and condition of winter range is usually the factor limiting the abundance of deer and elk populations. In many areas man has converted large portions of former big game winter range into crop land, reservoirs, roads and housing developments which has reduced the amount of winter range and number of game animals.

In areas where winter range is severely limited the Fish and Game Department can regulate the abundance of big game to the capacity of the winter range or an annual program of winter feeding might be attempted to increase the number of deer or elk which can overwinter. Such programs of winter feeding are expensive and much research would be needed to develop adequate feeds, methods of animal distribution, and means of protecting the remaining natural winter range.

Which of the following *best* expresses your opinion of supplemental winter feeding to attempt to artificially increase the abundance of deer or elk? (Check ONE)

- The Department should *not* attempt to increase big game herds in excess of the natural carrying capacity of winter range.
- The Department should attempt to increase big game herds through supplemental winter feeding.
- No Opinion.

13. Listed below is the calculated percentage of elk and deer hunters in Idaho who were from out-of-state and their portion of the total harvest. Note that the relative abundance of out-of-state deer and elk hunters reached a peak in 1969 when 11.5% of the deer hunters and 16.7% of the elk hunters in Idaho that year were out-of-staters.

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Out-of-staters have harvested 8-12% of the deer and 19-21% of the elk in recent years.

Year	Percentage of out-of-state hunters		Percentage harvest by out-of-state hunters	
	Deer	Elk	Deer	Elk
1966	8.0	12.5	7.9	20.9
1967	8.0	12.4	9.0	19.6
1968	9.7	15.1	10.6	21.3
1969	11.5	16.7	11.9	20.3
1970	10.4	14.7	10.9	19.0

Many of the out-of-state elk hunters use the services of outfitters and guides and are, therefore, somewhat more successful than resident elk hunters.

We estimate out-of-staters will comprise 8-10% of the deer hunters and 12-14% of the elk hunters who hunted in Idaho during 1971.

Which of the following best expresses your feelings regarding the proportion of elk and deer hunters in Idaho who are out-of-staters?

	Deer hunters	Elk hunters
Percentage out-of-staters too high	<input type="checkbox"/>	<input type="checkbox"/>
Percentage out-of-staters about right	<input type="checkbox"/>	<input type="checkbox"/>
Percentage out-of-staters too low	<input type="checkbox"/>	<input type="checkbox"/>
No opinions	<input type="checkbox"/>	<input type="checkbox"/>

14. Approximately 15,000 rooster pheasants have been reared annually at Fish and Game Department game farms. Most of these were released just before the hunting season opened. Department personnel have found that about half the released birds were bagged by hunters and few of the remainder survived over winter. Cost of producing roosters was about \$3 each at time of release but about \$6 each if we count only those that end up in the hunter's bag. The 7,000 to 8,000 game farm pheasants harvested annually amounts to 1-2% of the total pheasant harvest of 400,000 to 500,000 birds in Idaho each year. Most pheasants harvested in Idaho are wild birds. Game farm pheasants have been used to provide or supplement pheasant hunting in areas that do not have adequate natural bird populations, usually because of poor habitat.

Wildlife managers are unsure about the desirability of using license fees to provide

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"put and shoot" hunting with game farm pheasants because of the cost per game farm bird bagged by hunters and the small contribution to total harvest.

Which of the following *best* describes your views concerning hunting provided by game farm pheasants? (Check ONE)

- Providing hunting with game farm pheasants is a good program and should be continued.
- "Put and shoot" hunting for game farm pheasants is a poor use of license fees and should not be continued.
- No Opinion.

15. The Fish and Game Department publishes a magazine entitled "The Idaho Wildlife Review". Please mark the appropriate block to indicate your familiarity with the magazine.

- I receive "The Idaho Wildlife Review".
- I read the magazine occasionally in barber-shops, doctors offices, etc.
- I have not seen the magazine.

16. For maximum production of ring-necked pheasants in the wild, it is desirable to maintain a breeding population with many more hens than roosters. Each piece of pheasant cover (particularly in winter) can support only a limited number of pheasants, whether they be hens or cocks. The remainder are surplus and will die whether they are hunted or not. In areas with good pheasant cover (such as much of Southern Idaho) wildlife managers have found that 20-30% of the hen pheasants available in the fall of the year can be taken by hunting without affecting next spring's production potential. This 20-30% are surplus hens which would be lost to natural mortality between October and April.

What are your feelings about hunting hen pheasants? (Check ONE)

- Hen pheasants should not be hunted at any time.
- Limited numbers of hen pheasants should be taken by hunters under special regulations-seasons or bag limits.
- Both cocks and hens should be hunted without restriction, same as other game birds.
- No Opinion.

17. Do you believe the Fish and Game De-

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Figure 2. Continued

partment is doing a satisfactory job of managing the following species. (Check ONE for each species)

	Yes	No	No Opinion
Deer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Elk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trophy animals (sheep, goats, moose)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Antelope	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pheasants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sage grouse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Forest grouse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chukar partridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Waterfowl	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18. The pheasant season in southern Idaho opens at noon rather than daylight. Most pheasant hunting take place on privately owned farm land where hunting is by permission of the owner. The largest concentration of hunters occurs on opening day and the noon opening is an aid to the landowner by giving him time during the morning to get prepared for the influx of hunters. It also avoids the problem of hunters disturbing the landowners at an early morning hour to ask permission to hunt. On the other hand some people feel the noon opening causes a concentration of hunters whereas an early morning opening would disperse hunting pressure throughout the day. Which of the following best expresses your feelings? (Check ONE)
- I am satisfied with the noon opening for pheasants.
- I prefer an early morning opening for pheasants.
- No Opinion.

19. Many game departments in the West have provided emergency feed for big game in past years but such programs have had limited success because the animals did not do well on the feeds available and concentrating animals at feeding sites damaged the natural ranges.
- The current policy of the Idaho Fish and Game Department is to attempt to regulate the abundance of big game animals in each area at the number which the natural winter range will support during normal winters. During emergency situations and

severe winters, the animals will be herded, baited, or live trapped and moved to areas with natural feed if possible. Emergency winter feeding will be undertaken only as a last resort.

Do you approve or disapprove of the Fish and Game Department's current policy on (1) regulating big game numbers and (2) emergency winter feeding? (Check ONE in each column)

	Big Game numbers	Winter feeding
Approve	<input type="checkbox"/>	<input type="checkbox"/>
Disapprove	<input type="checkbox"/>	<input type="checkbox"/>
No Opinion	<input type="checkbox"/>	<input type="checkbox"/>

20. In recent years, roads have been built into many big game hunting areas for logging and other uses. Additional roads are scheduled to be built in the future, particularly in those drainages with commercial timber stands. As new roads are built they can be maintained and used by hunters and other recreationists or many of them can be closed to vehicle traffic once logging is completed.
- The effects of roads and traffic on the abundance and behavior of big game animals has not been thoroughly researched. Roads may or may not affect the abundance and distribution of big game depending on the density and location of roads, traffic and vegetation.
- The amount and location of hunting areas with extensive road access or very limited road access can be regulated by the management agencies if they are aware of our preference for access to the hunting areas. Some people prefer to hunt areas that are easily accessible while others prefer to hike or pack in to remote areas that are not easily accessible.

Which of the following best describes your feelings on roads as related to big game hunting? (Check ONE)

- Roads in the big game areas provide improved access and easier hunting, and I believe more should be constructed in the future.
- Present access to big game areas by roads is adequate and no more roads are needed. New roads for logging should be closed to public use after logging.
- Overcrowding of big game hunting areas has already occurred because of too many roads. No new roads should be constructed and some existing roads should be closed.
- No Opinion

21. In Idaho, wildlife belongs to the State, and the Fish and Game Commission has the responsibility to preserve, protect and perpetuate the wildlife to provide continued supplies for hunting by the citizens of the state. The law also provides that others (such as out-of-staters) may hunt wildlife in Idaho.

In 1969, 188,000 residents and 25,000 out-of-staters purchased licenses to hunt in Idaho. The out-of-staters competed with residents for wildlife but also made a substantial economic contribution to the state. Out-of-staters bring in a large (but presently unknown) amount of "new" money into the state when they buy gas, food, lodging, outfitting services, and hunting supplies. Out-of-staters also provide a large share of the funds used by the Idaho Fish and Game Department to manage our wildlife resources. Revenue to the Department from out-of-state hunting license sales in 1969 was \$1,710,000 compared to \$563,000 from sales of resident hunting licenses.

Which of the following best expresses your feeling regarding out-of-state hunters and hunting of wildlife in Idaho? (Check ONE)

- Allow unrestricted numbers of out-of-state hunters in Idaho.
- Restrict the number of out-of-state hunters in Idaho.
- No Opinion.
- If you believe out-of-state hunters should be restricted, which of the following do you prefer? (Check ONE)
- Out-of-state hunters should be allowed to hunt only in those areas where residents do not adequately harvest the game.
- Restrict the number to out-of-state hunters to 20% .10% .5% of all hunters.
- No out-of-state hunters should be allowed to hunt in Idaho.

22. Fees from the sale of hunting licenses are the primary funds used by the Fish and Game Department to manage Idaho's wildlife resources. Listed below is the percentage of all licensed hunters (birds and big game) in Idaho during 1969 that were residents and out-of-staters and the percentage of total revenue contributed by both groups of hunters. Note that 14% of the hunters were out-of-staters but that they

contributed 58% of the revenue received from hunting license and tag sales!

	Residents	Out-of-staters
Licensed hunters	86%	14%
License and tag revenue	42%	58%

Some people have expressed the feeling that out-of-state hunters were becoming too numerous and should be limited. A significant reduction in the number of out-of-state hunters would result in a reduction in funds available to the Fish and Game Department for management of the wildlife resources.

If the number of out-of-state hunters were significantly restricted, would you be willing to pay increased annual fees to help make up for the lost revenue from license and tag sales?

	No	If yes, how much?			
		\$1	\$3	\$5	More
Hunting Licenses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Elk Tag	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Deer Tag	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

23. Please list your Age Sex
Occupation
24. What was the approximate total yearly income of your family in 1971: (Check ONE)
- Under \$2,999 \$10,000-14,999
- \$3,000-4,999 \$15,000-19,999
- \$5,000-6,999 \$20,000-24,999
- \$7,000-9,999 \$25,000 or over

Thank you

Figure 2. Continued

survey questionnaire. The supplemental information was prepared by project personnel and headquarters staff of the Idaho Department of Fish and Game. We endeavored to present short, concise statements of the latest information available on a particular subject or where appropriate the current policies of the Idaho Department of Fish and Game. The questions asked in the special survey questionnaire were exactly the same as those asked in the primary survey questionnaire, but were preceded in some cases by a statement of supplemental information.

For the primary survey we selected 7,602 license holders from the stubs of the two resident license classes (Table 2). For the special survey with supplemental information we selected 1,928 license holders from the two resident license classes. The questionnaires for the primary survey were mailed out in four different groups following the months of September, October, November and December of 1971. The initial mailing for the special survey was in March, 1972 when all the questionnaires were mailed at one time. Although the questionnaires for the primary survey were mailed over a period of time, we did not find any difference in the response because of the month people received the questionnaire (Bjornn and Dalke 1975). People who did not respond to the initial mailing of the questionnaire were sent two additional questionnaires and requests to respond to the survey.

Approximately half the people in each sample group completed and returned a questionnaire (Table 2). A large proportion of the people in the sample did not return a questionnaire but Bjornn and Dalke (1975) found that non-response bias was negligible for the type questions used in the primary survey. Based on their findings, I assumed non-response bias was also negligible in the special survey.

The rate at which the people in the sample returned their questionnaires was similar for both the primary and special surveys (Table 3), evidence that we were sampling people from the same statistical population. The people drawn for the primary and special surveys were drawn from the same decks of license stubs and therefore should have been similar in all respects. However, there was up to 6 months difference in time from when the first people received their questionnaires in the primary survey and some of the last people received their questionnaires and completed them for the special survey.

Table 1. The questions in the primary survey questionnaire without supplemental information which were included in the special survey questionnaire with or without supplemental information.

Question number in primary questionnaire	Corresponding question number in special survey questionnaire	Supplemental informa- tion provided in special questionnaire
1	1	not appropriate
2	not included	-
3	not included	-
4	2	not appropriate
5	3	not appropriate
6	4	not appropriate
7	not included	-
8	5	not appropriate
9	not included	-
10	21	yes
11	6	no
12	8	yes
13	22	yes
14	7	yes
15	9	yes
16	not included	-
17	not included	-
18	10	no
19	11	no
20	not included	-
21	17	not appropriate
22 (1st part)	12	yes
22 (2nd part)	19	yes
23	20	yes
24	16	yes
25	14	yes
26	18	yes
27	not included	-
28	23	not appropriate
29	24	not appropriate

FINDINGS

I compared the demographic characteristics and responses to questions without supplemental information of people from both primary and special surveys to determine if the people in the two surveys were indeed from the same population. I then compared the responses to questions in the primary survey without the supplemental information and with corresponding questions in the special survey, where we provided supplemental information, to see if the additional information changed the percentage of people with each opinion or preference.

Table 2. The number of people in samples for the primary and special surveys, the number and the percentage of questionnaires returned with two follow-up contacts.

Resident license classes	Number of people in sample		Number of questionnaires returned		Percentage of questionnaires returned	
	Primary	Special	Primary	Special	Primary	Special
Combination (01)	4801	1224	2772	684	57.7	55.9
Hunting only (02)	<u>2801</u>	<u>704</u>	<u>1342</u>	<u>308</u>	47.9	43.8
Totals	7602	1928	4114	992	54.1	51.5

Table 3. The number of questionnaires mailed initially and with each follow-up and the number and percentage returned by each license class for the primary and special surveys.

	Primary survey		Special survey	
	Combination	Hunt only	Combination	Hunt only
<u>Initial mailing</u>				
Number mailed	4801	2801	1224	704
Number returned	1402	613	375	157
Percentage	29.2	21.9	30.6	22.3
<u>First follow-up</u>				
Number mailed	3493	2278	896	558
Number returned	1027	462	218	99
Percentage	29.4	20.3	24.3	17.7
<u>Cumulative return</u>				
Percentage	50.6	38.4	48.5	36.4
<u>Second follow-up</u>				
Number mailed	2385	1748	653	451
Number returned	343	267	91	52
Percentage	14.4	15.3	13.9	11.5
<u>Cumulative return</u>				
Percentage	57.7	47.9	55.9	43.8

Demographic Comparisons

The percentage of males and females (Fig. 3), the age distribution (Fig. 4), the percentage of people in each occupational grouping (Fig. 5), the income (Table 4) and the number of years hunted in Idaho was similar for residents in both the primary and special surveys (Fig. 6). The close similarities in these demographic characteristics of people in the primary and special surveys were evidence that the people in the two surveys were drawn from the same population of resident hunters.

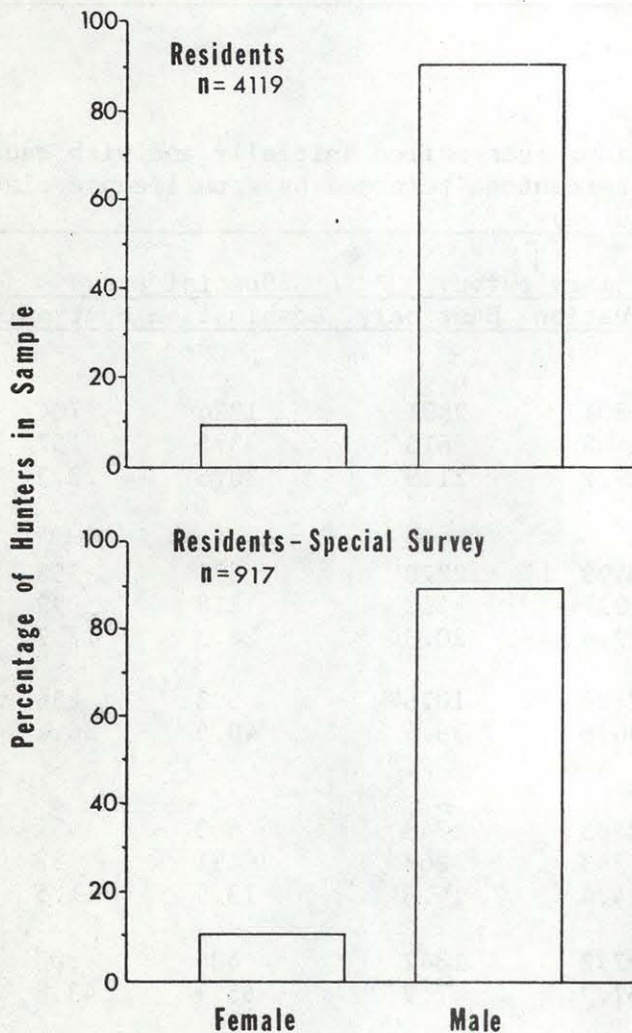


Figure 3. The percentage of residents in the primary and special surveys who were males and females.

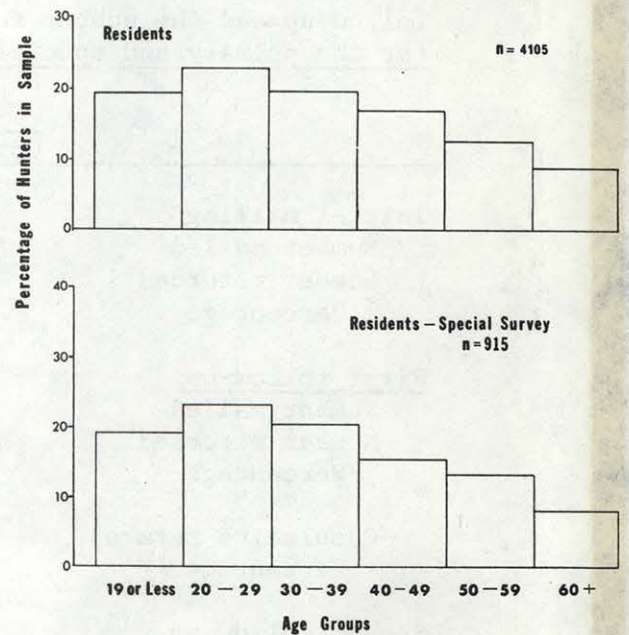


Figure 4. The age distribution of residents in the primary and special surveys.

Table 4. The percentage of residents in the primary and special surveys with annual incomes in the various groups.

Income Group (thousands of dollars)	Residents	
	Primary Survey	Special Survey
Number in Sample	3621	830
<3,000	5.2	6.5
3,000-4,999	8.1	10.2
5,000-6,999	15.5	16.1
7,000-9,999	28.1	26.2
10,000-14,999	28.4	27.5
15,000-19,999	8.7	8.3
20,000-24,999	3.1	2.4
>25,000	4.3	2.9

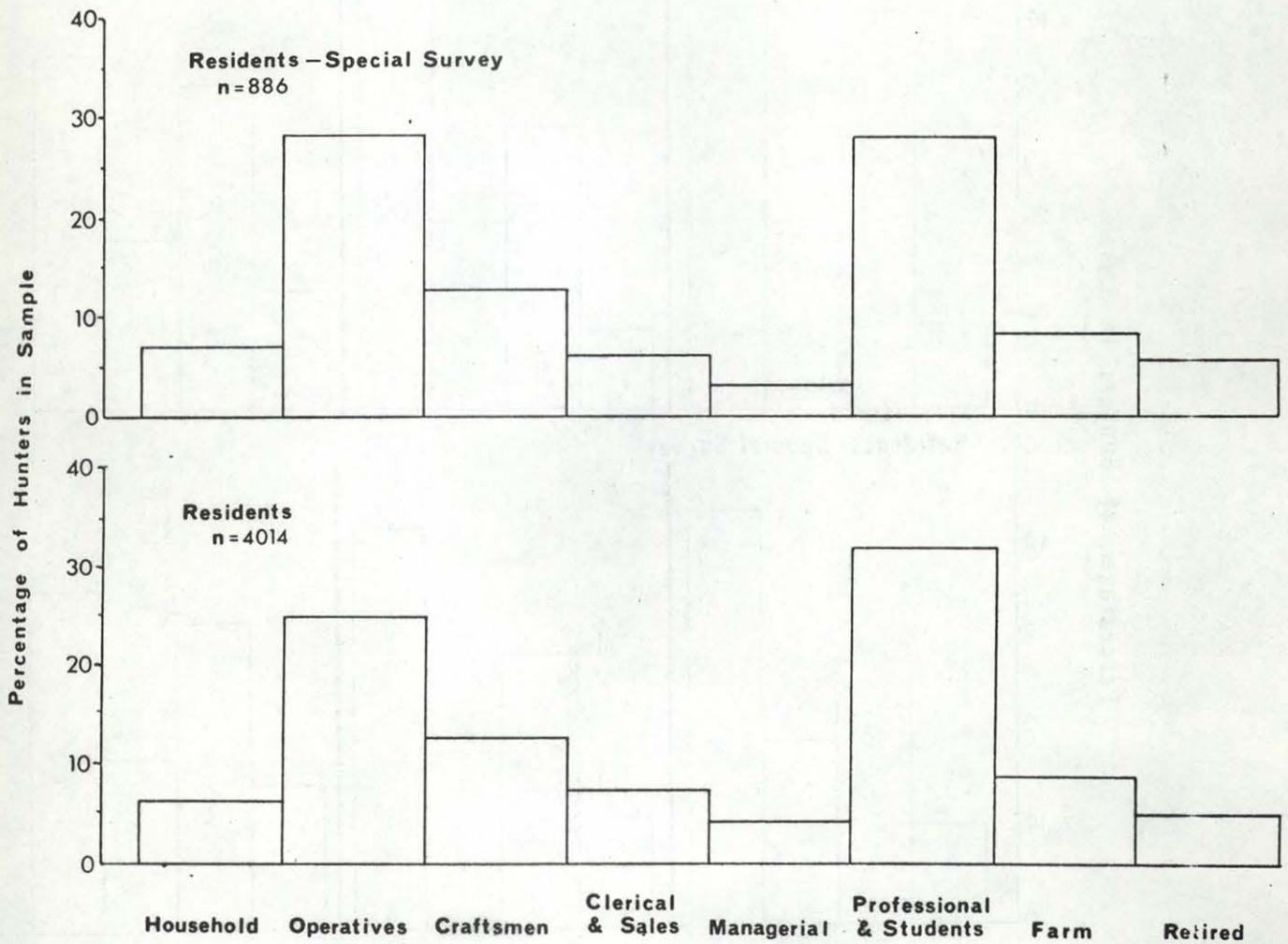


Figure 5. The percentage of residents in the primary and special surveys in each occupational category.

Questions without Supplemental Information

The percentage of people listing each of the various reasons for going hunting was nearly identical for both the residents of the primary survey and those of the special survey (Fig. 7). There were small, probably insignificant, differences in the percentage of people from the primary versus special surveys who indicated they had confidence or a lack of confidence in the game count and harvest information provided by the Idaho Department of Fish and Game (Fig. 8 and 9). The percentage of

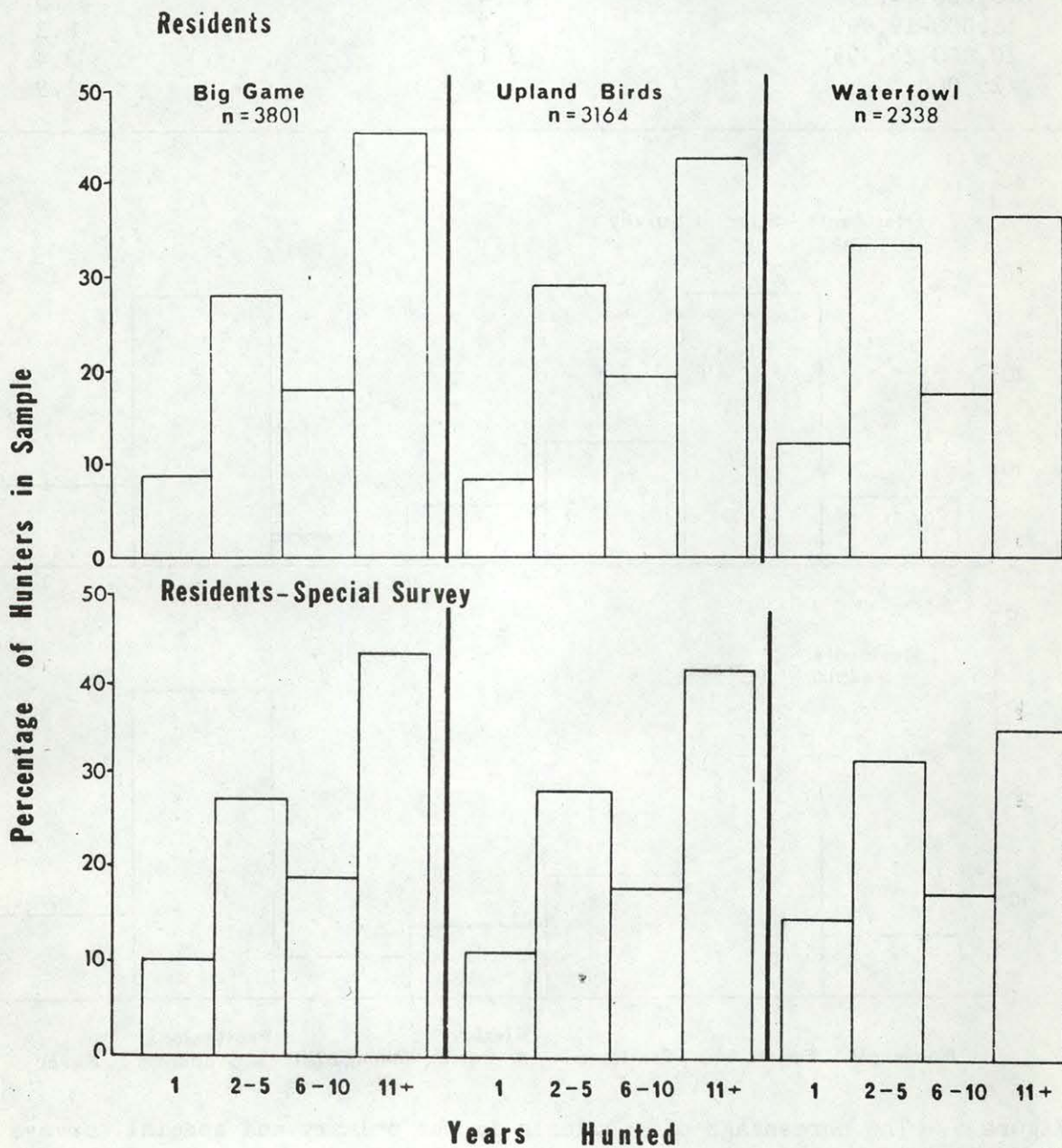


Figure 6. The percentage of residents in the primary and special surveys who had hunted specified numbers of years for big game, upland birds, or waterfowl in Idaho.

residents in the two surveys who listed their hunting as unsatisfactory or satisfactory was also nearly identical (Fig. 10).

A slightly larger percentage of the people who responded to the special survey compared to those who responded to the primary survey thought there was too much competition with non-residents while hunting big game (Fig. 11). A smaller percentage of residents in the special survey than in the primary survey thought competition with non-resident hunters was not noticeable or noticeable but not objectionable.

Nearly identical percentages of residents in both the special and primary surveys thought the amount and condition of vegetation on the winter range was (or was not) the proper basis for managing big game populations (Fig. 12).

Questions with Supplemental Information

Out-of-State Hunters in Idaho

Nearly 90% of the residents in both the primary and special surveys thought the number of out-of-state hunters should be restricted (Fig. 13). In the supplemental information statement we pointed out that: 1) the law provides that both residents and out-of-staters may hunt wildlife in Idaho, 2) the number of resident versus out-of-staters who purchased licenses in recent years, 3) the economic contribution to the state from out-of-state hunters, and 4) the revenue to the Department of Fish and Game from out-of-state hunting license sales. The information provided in question 21 of the special survey questionnaire did not change the percentage of resident hunters who believed the number of out-of-state hunters should be restricted.

In the second part of question 21 of the special survey questionnaire, more of the residents in the special survey than in the primary survey preferred to limit non-residents to a small percentage of the total resident hunters (Fig. 14). A smaller percentage of the residents of the special survey compared to those in the primary survey thought out-of-state hunters should comprise 20% of all hunters and a slightly larger percentage thought out-of-state hunters should only comprise 5% of the total hunters.

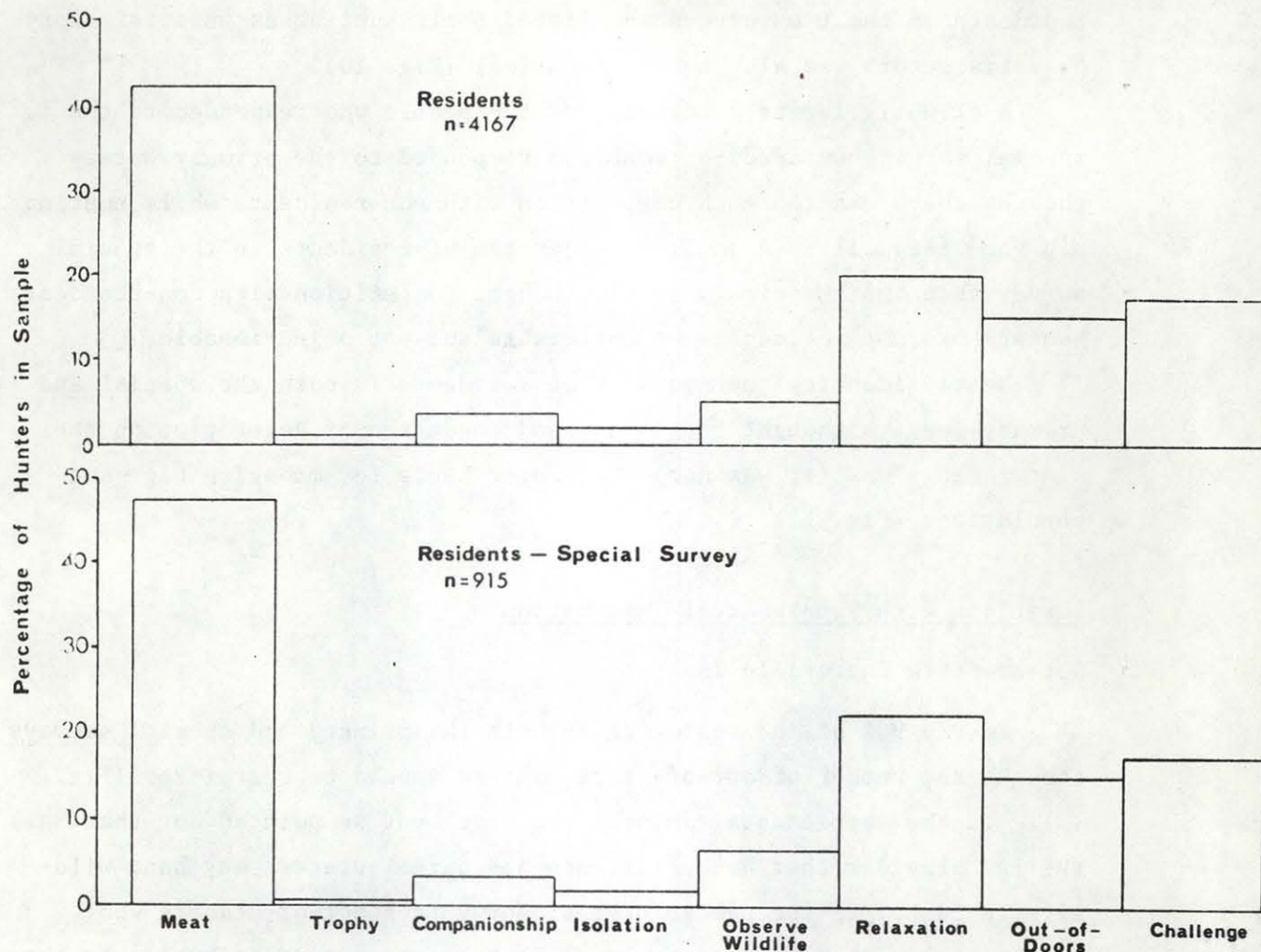


Figure 7. The percentage of residents in the primary and special surveys who listed meat, trophy, etc. as their primary reasons for hunting in Idaho.

Commission Policy on Out-of-State Hunters

In question 12 of the primary survey we requested people to indicate their opinion regarding the Idaho Fish and Game Commission's limitation on the number of out-of-state big game hunters in Idaho. We did not explain the commission's limitations. In question 8 of the special survey questionnaire we listed the annual sales of Idaho hunting licenses to residents and out-of-staters for the last six years (Fig. 2) and noted that the Idaho Fish and Game Commission had limited the number of big game hunting licenses which could be sold to out-of-staters. We

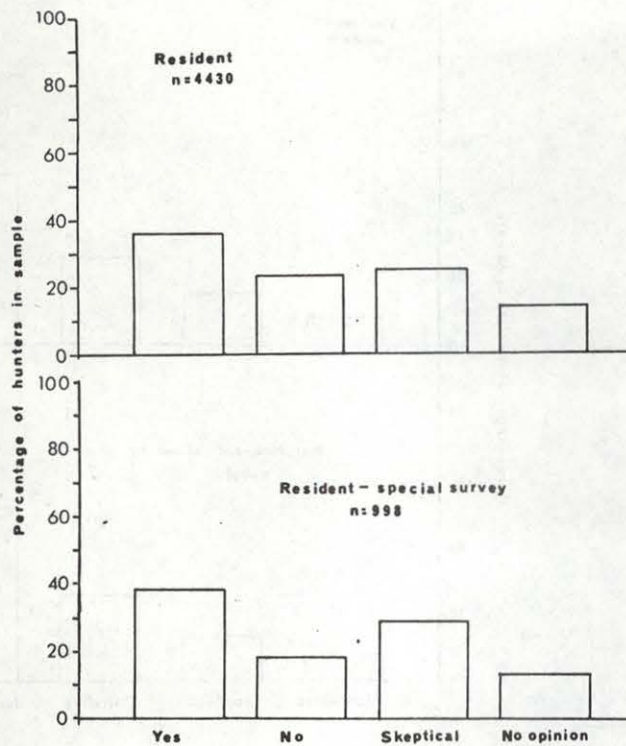


Figure 8. The percentage of residents in the primary and special surveys who expressed confidence, a lack of confidence, or skepticism in the game count information provided by the Idaho Department of Fish and Game.

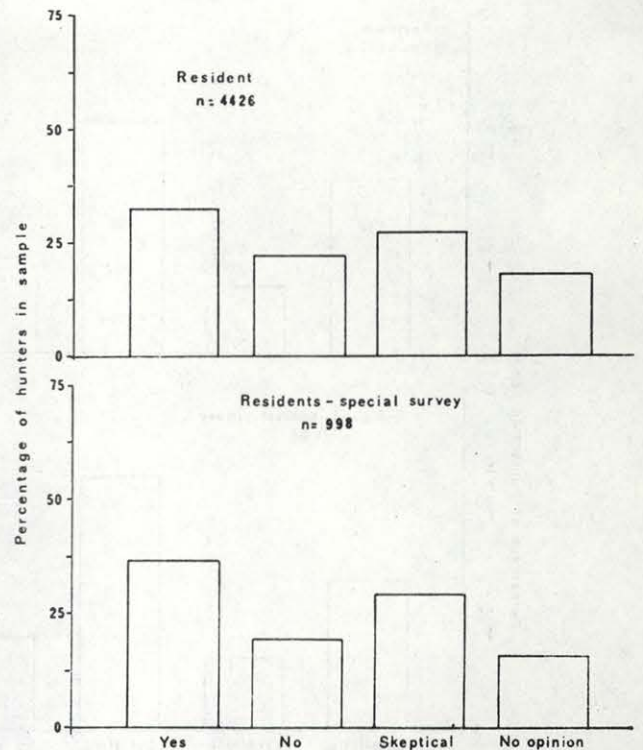
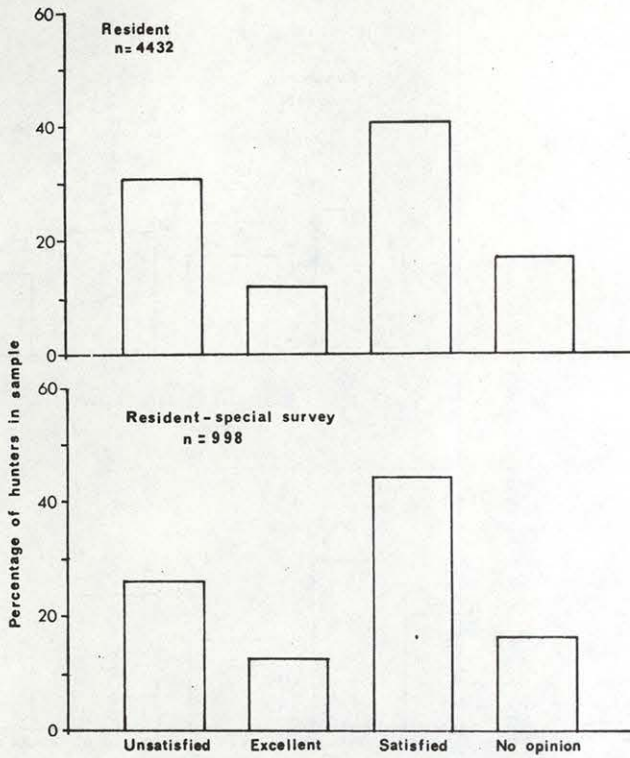


Figure 9. The percentage of residents in the primary and special surveys who expressed confidence, a lack of confidence, or skepticism of the harvest estimates provided by the Idaho Department of Fish and Game.

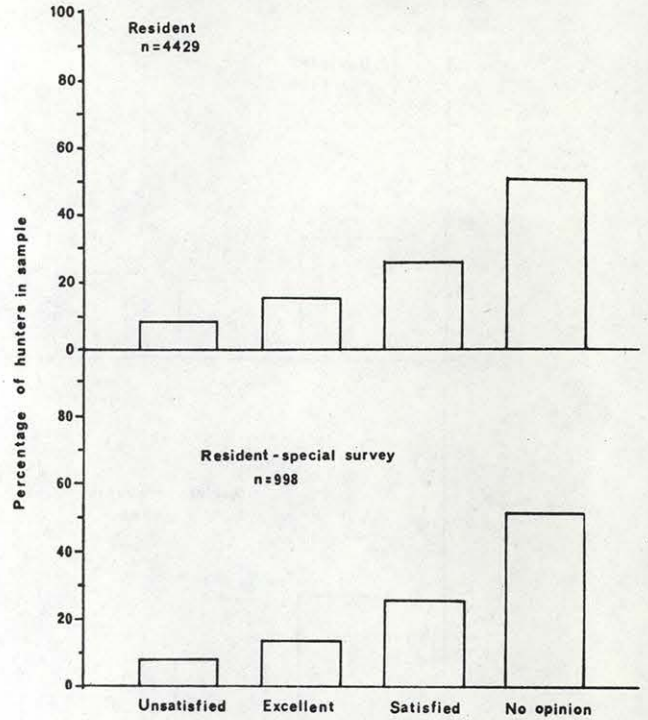
explained that sales of out-of-state combination licenses were limited to 5% of the total resident hunting license sales for the previous year and sales of the deer only out-of-state licenses were limited to 2% of total resident sales.

Seventeen percent of the residents in the primary survey indicated they did not know the restrictions imposed by the Fish and Game Commission on the number of out-of-state big game hunters (Fig. 15). Nearly half the residents in the primary survey and 52% in the special survey thought the Commission should have reduced the number of out-of-state hunters more than the 5% and 2% limitations imposed in 1971. Thirty-three percent of the people in the special survey thought the commission

**SATISFACTION WITH BIG GAME HUNTING
IN IDAHO**



**SATISFACTION WITH WATERFOWL
HUNTING IN IDAHO**



**SATISFACTION WITH UPLAND BIRD
HUNTING IN IDAHO**

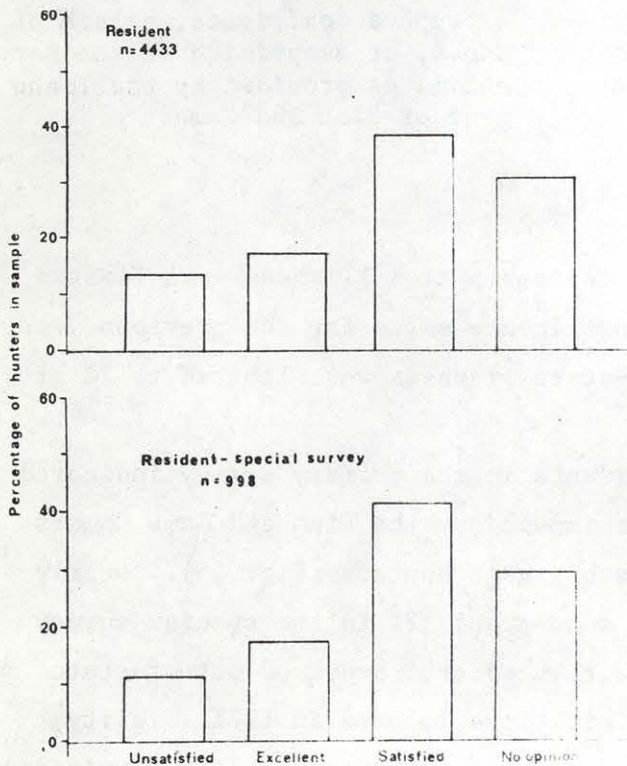


Figure 10. The percentage of residents in the primary and special surveys who rated their hunting for big game, upland birds, and waterfowl in Idaho as satisfactory, unsatisfactory, or excellent.

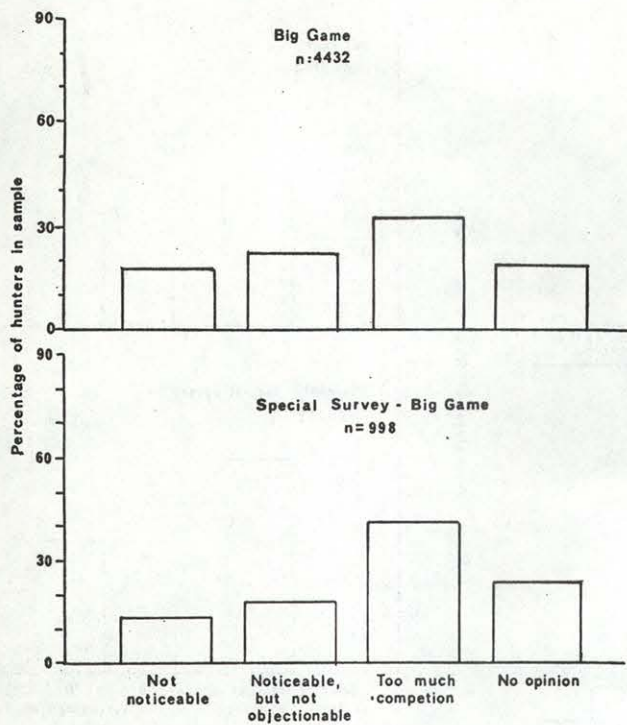


Figure 11. The percentage of residents in the primary and special surveys who rated their competition with non-residents while hunting big game as not noticeable, noticeable but not objectionable, or as too much competition.

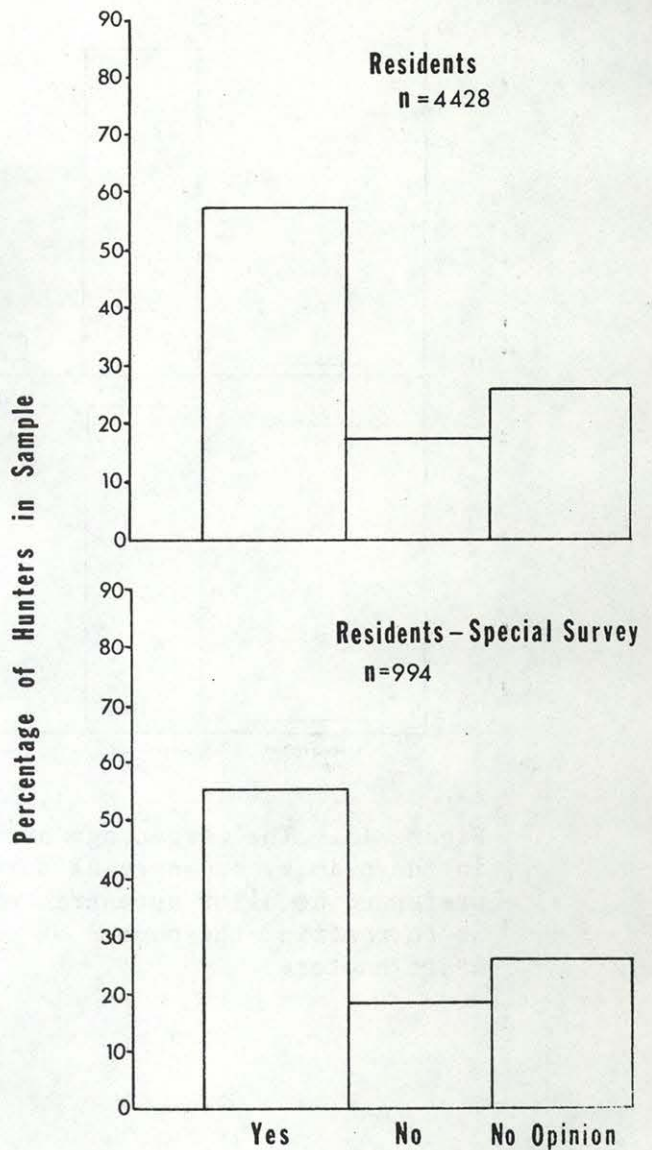


Figure 12. The percentage of residents in the primary and special surveys who did or did not think the amount and condition of vegetation on the winter range was a proper basis for managing big game populations.

allowed the right number of out-of-state hunters and 3% thought they should have allowed more out-of-state hunters.

Most of the residents who did not know of the commission's limitation on out-of-state hunters (17% in the primary survey) thought the commission had allowed about the right number of out-of-state hunters

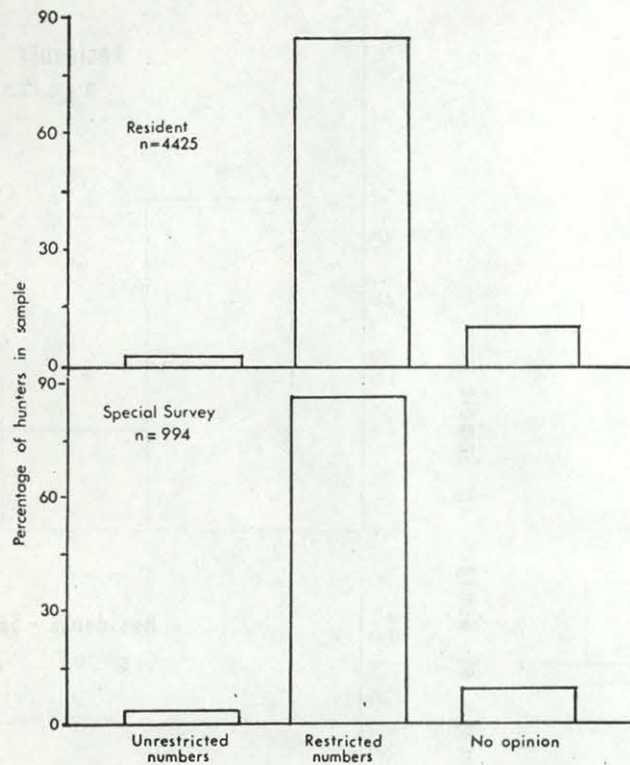


Figure 13. The percentage of residents in the primary and special surveys who preferred to allow unrestricted numbers or to restrict the number of out-of-state hunters.

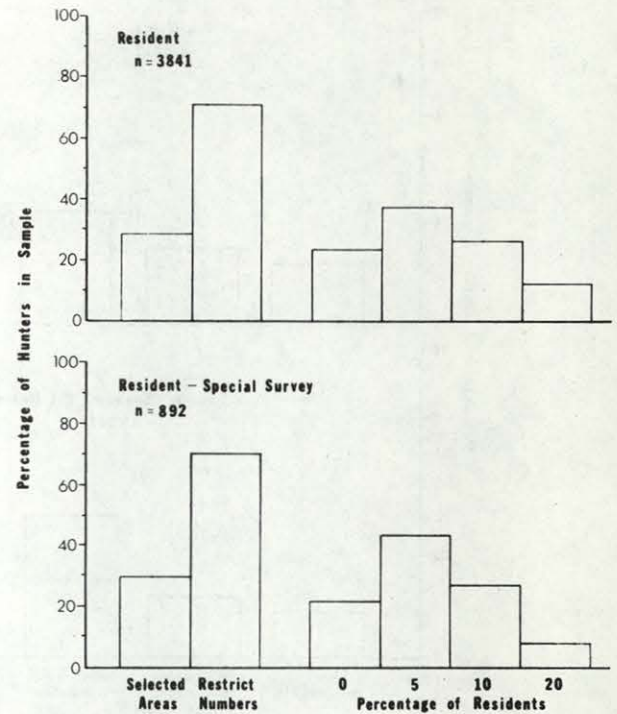


Figure 14. The percentage of residents in the primary and special surveys who preferred to allow out-of-state hunters to hunt only in those areas where residents did not adequately harvest the game, or restrict the number of out-of-state hunters to a proportion of all hunters (0, 5, 10 or 20%).

when they were informed of the limitation. A few of the people who did not know of the limitation thought the commission should have reduced the number of out-of-state hunters further and a few thought the commission should have allowed more out-of-state hunters (Fig. 15).

Fees for Licenses and Tags - Restriction of Hunters

In question 13 of the primary survey we asked people if they would be willing to pay increased annual fees for hunting licenses and elk and deer tags if the number of out-of-state hunters were significantly restricted. In the special survey questionnaire we asked the same question (Question 22) but we also pointed out that the fees from the sale of hunting licenses and tags were the primary funds used by

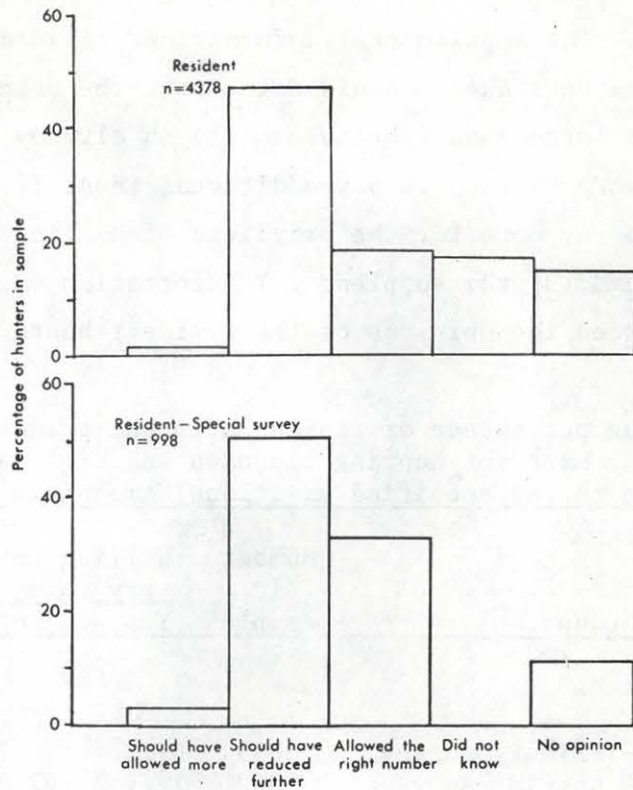


Figure 15. The percentage of residents in the primary and special surveys who thought the Commission should have allowed more out-of-state hunters, should have reduced the number of out-of-state hunters further, or allowed the right number.

the Fish and Game Department to manage Idaho's wildlife resources. We explained that in 1969 out-of-staters comprised 14% of the hunters but they contributed 58% of the revenue received from hunting license and tag sales. We also noted that some people had expressed the feeling that out-of-state hunters were becoming too numerous and should be limited, however, a significant reduction in the number of out-of-state hunters would result in less funds available to the Idaho Department of Fish and Game for management of wildlife.

In both the primary and special surveys, nearly three-fourths of the resident hunters were willing to pay more for licenses and tags (Table 5). A slightly larger percentage of the residents in the special survey were willing to pay more for licenses and tags than in the pri-

mary survey. The supplemental information provided in connection with the increased fees question did not change the opinions of resident hunters by a large amount because: (1) an already large percentage of the people were willing to pay additional fees, (2) some people were unwilling to pay more for the privilege of hunting regardless of the situation, and (3) the supplemental information we provided may only have reinforced the opinions of the resident hunters.

Table 5. The percentage of residents in the primary and special surveys who would pay more for hunting licenses and tags and the percentage who were willing to pay specified additional amounts.

Group	Number in sample	Willing to pay more		Amount willing to pay (dollars)			
		Yes	No	1	3	5	More
Hunting License							
Resident - Primary survey	3895	69.3	30.7	21.7	20.3	17.6	9.8
Resident - Special survey	862	72.7	27.3	20.0	22.8	19.2	10.7
Elk Tag							
Resident - Primary survey	3536	71.6	28.4	25.9	19.4	17.6	8.7
Resident - Special survey	804	75.9	24.2	24.1	22.9	19.6	9.2
Deer Tag							
Resident - Primary survey	3600	70.9	29.1	32.6	19.4	11.6	7.3
Resident - Special survey	819	75.3	24.7	30.7	26.1	11.0	7.5

Department Policy - Regulating Big Game Numbers and Winter Feeding

In the primary survey we asked people if they approved or disapproved of the Idaho Department of Fish and Game's current policy on regulating big game numbers and emergency winter feeding (Question 22) but we did not explain the policies in the questionnaire. In the special survey questionnaire (Question 19) we explained that many departments in the west had provided emergency feed for big game in past years but such programs had limited success because the animals did not do well on the feeds available and concentrating animals at feeding sites damaged the natural ranges. We also explained that it was the current policy of the Idaho Department of Fish and Game to attempt to regulate the abundance of big game animals in each area at the number which the

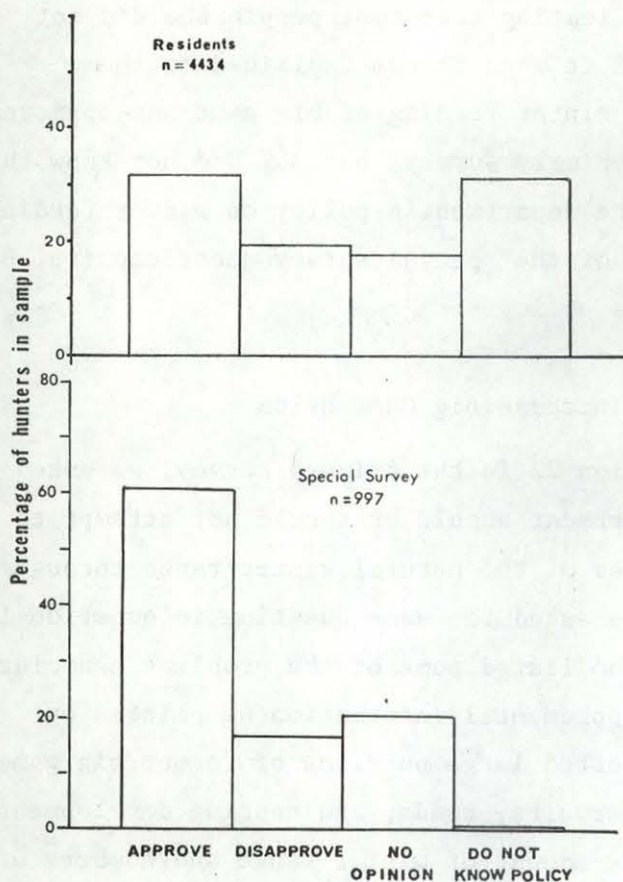


Figure 16. The percentage of residents in the primary and special surveys who approved, disapproved, had no opinion, or did not know the Department's policy on regulating big game numbers.

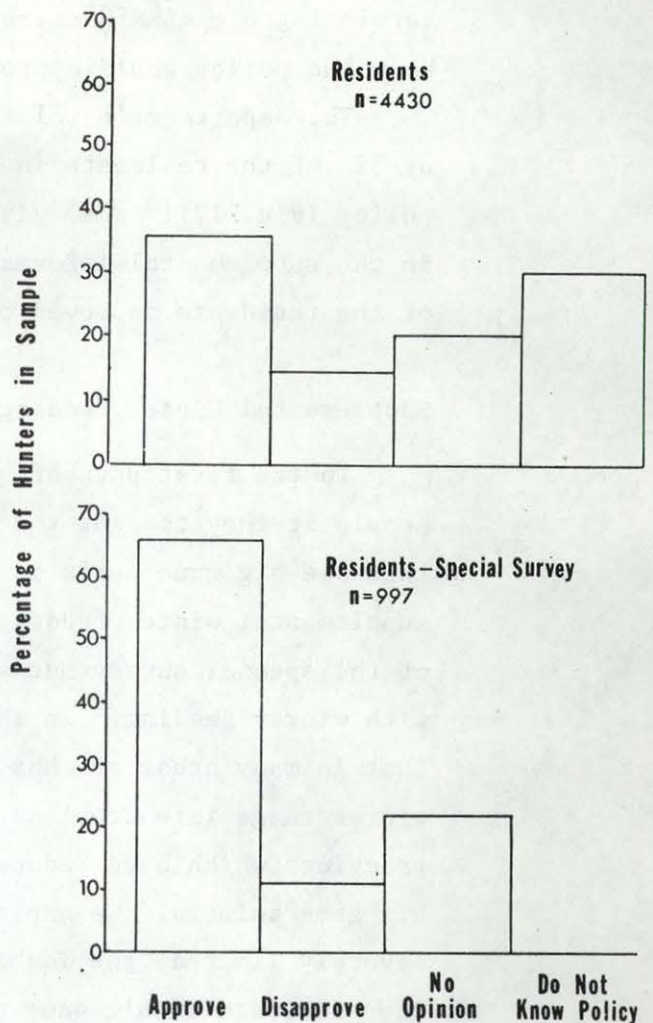


Figure 17. The percentage of residents in the primary and special surveys who approved, disapproved, had no opinion, or did not know the Department's policy on emergency winter feeding.

natural winter range would support during normal winters. During emergency situations and severe winters the animals would be herded, baited, or live trapped and moved to areas with natural feed if possible. Emergency winter feeding would be undertaken only as a last resort.

In the primary survey, one-third of the residents approved of the department's policy for regulating big game numbers, but another third indicated they did not know the policy (Fig. 16). In the special survey, 61% of the residents approved of the department's policy for

regulating big game numbers; indicating that most people who did not know the policy would approve of it when it was explained to them.

The department's policy on winter feeding of big game was approved by 35% of the residents in the primary survey, but 30% did not know the policy (Fig. 17). When given the department's policy on winter feeding in the supplemental information of the special survey questionnaire, 67% of the residents approved of the policy.

Supplemental Winter Feeding to Increase Big Game Herds

In the first part of question 22 in the primary survey, we asked people if they thought the department should or should not attempt to increase big game herds in excess of the natural winter range through supplemental winter feeding. We asked the same question in question 12 of the special survey but we also listed some of the problems associated with winter feeding. In the supplemental information we pointed out that in many areas man has converted large portions of former big game winter range into cropland, reservoirs, roads, and housing developments, practices which have reduced the amount of winter range and numbers of big game animals. We explained that in areas where winter range was severely limited, the Idaho Department of Fish and Game could regulate the abundance of big game to the capacity of the winter range or an annual program of winter feeding might be attempted to increase the number of deer or elk which could overwinter. Such programs of winter feeding would be expensive and much research would be needed to develop adequate feeds, methods of animal distribution and means of protecting the remaining natural winter range.

Half the residents in both the primary and special surveys expressed the opinion that the department should attempt to increase big game herds through supplemental winter feeding (Fig. 18). Thirty-two percent of the people in the primary survey and 37% in the special survey thought the department should not attempt to increase big game herds in excess of the natural carrying capacity of the winter range. The supplemental information provided in the special survey questionnaire had little or no effect on the opinions on resident hunters with regard to supplemental winter feeding to increase the abundance of deer and elk.

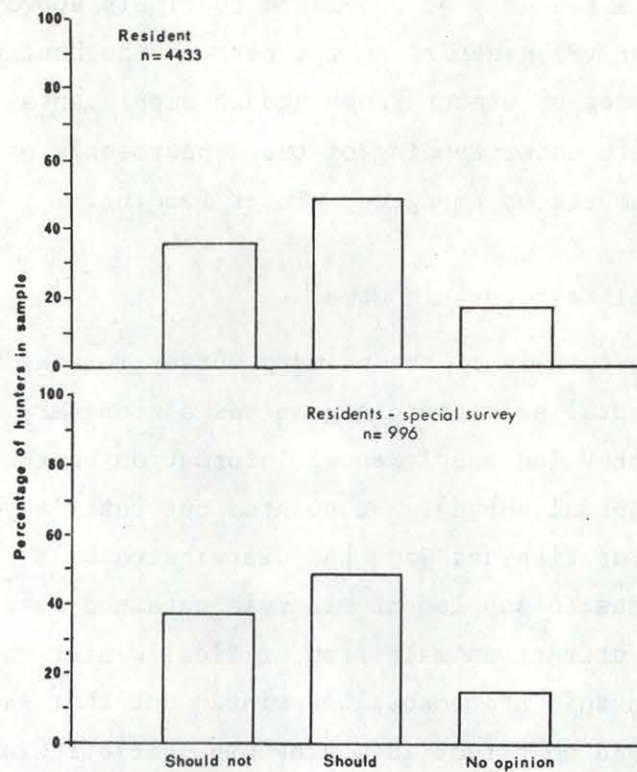


Figure 18. The percentage of residents in the primary and special surveys who thought the Department should or should not attempt to increase the abundance of deer or elk through supplemental winter feeding.

The opinions expressed by many residents with regard to supplemental winter feeding (Fig. 18) appeared to be in conflict with the opinions they expressed regarding the approval of department policies on regulating big game numbers and winter feeding (Fig. 16 and 17). Sixty to seventy percent of the residents approved of department policies in which 1) the number of big game animals would be regulated at the number which the natural winter range would support during normal winters and 2) emergency winter feeding would be undertaken only as a last resort. Half the residents, on the other hand, thought the department should attempt to increase big game herds through supplemental winter feeding; a program which would be in direct conflict with the policy on regulating

big game numbers and winter feeding. The conflicting opinions may stem from: (1) a tendency of people to routinely approve of governmental policies, or (2) a desire on the part of the hunting public to compensate for the losses of winter range through supplemental winter feeding or (3) an incomplete understanding of the department's policies on regulating big game numbers or emergency winter feeding.

Supplemental Salt for Big Game

In question 14 of the primary survey we asked if the distribution of supplemental salt for big game was a necessary or unnecessary program. We provided supplemental information on the same topic in question 7 of the special survey. We pointed out that in years past the Idaho Department of Fish and Game had distributed salt for big game animals in certain areas to supplement minerals obtained naturally and in an attempt to attract animals from critical winter ranges earlier in the spring. In this statement, we pointed out that salt placed in strategic locations had no effect in moving big game off winter ranges earlier than normal in the spring or holding them on summer range later than normal in the fall. We also pointed out that there had been no conclusive research on the effect of salt on the health and condition of big game animals. We added that there had been no indications of salt deficiency in big game animals and that the productivity of unsalted big game herds appeared to be as good or better than that of salted herds. In addition, we added that most biologists believe that although domestic livestock need additional salt, big game animals obtain adequate amounts through the minerals and the plants they normally eat and that supplemental salt is unnecessary.

Sixty-one percent of the residents in the primary survey thought the distribution of supplemental salt for big game was a necessary program and should be continued or expanded (Table 6). Only 5% of the residents in the primary survey thought the distribution of supplemental salt was unnecessary and 34% did not have an opinion on the topic.

The supplemental information provided in the special survey with regard to the distribution of supplemental salt for big game changed the views of a significant number of resident hunters. Only 34% of the

residents in the special survey thought the distribution of supplemental salt was necessary compared to 61% of the residents in the primary survey (Table 6). A larger percentage of the residents in the special survey compared to the residents in the primary survey thought the distribution of supplemental salt was unnecessary or did not have an opinion on the subject.

Table 6. The percentage of residents in the primary and special surveys who thought the distribution of supplemental salt was or was not necessary for big game.

Group	Number in sample	Views on supplemental salt		
		Necessary	Unnecessary	No Opinion
Resident - Primary Survey	4435	60.8	4.9	34.3
Resident - Special Survey	998	34.1	20.5	45.4

Roads and Big Game Hunting

We asked people in the primary survey to indicate their feelings with regard to the number of roads in big game hunting areas (Question 23). In the special survey (Question 20), we explained in the supplemental information that many miles of roads had been built into big game hunting areas for logging and other uses. We also pointed out that additional roads are scheduled to be built, and that these new roads could be maintained and used by hunters and other recreationists, or many of them could be closed to vehicle traffic once logging was completed. We also pointed out that the effects of roads and traffic on the abundance and behavior of big game animals have not been thoroughly researched. Roads may or may not affect the abundance and distribution of big game depending on the density and location of roads, traffic and vegetation.

There were only two minor differences in the response of residents from the two surveys regarding the abundance of roads and big game hunting (Fig. 19). Less than 10% of the residents in both surveys thought more roads should be constructed to provide improved access and easier hunting in big game areas. Twenty-seven percent of the residents

in the primary survey and 35% in the special survey thought road access to big game areas was adequate and that no more roads were needed. Forty-eight percent of the residents in the primary survey and 42% in the special survey thought there were already too many roads and that some existing roads should be closed. In both surveys, three-fourths of the residents indicated they did not want more roads in big game hunting areas.

Quantity versus Quality Hunting

In question 15 of the primary survey we asked people to indicate their preference for quantity or quality hunting. We described quantity hunting as maximum harvest, open season with no restrictions on number of hunters, and a lower rate of success. We described quality hunting as trophy animals, less than maximum harvest of animals, a lower density of hunters through use of special permits and a higher rate of success. In the special survey (Question 9), we amplified our descriptions of quality and quantity hunting. (See Fig. 2.)

The differences in response of residents from the two surveys were minor (Fig. 20). The supplemental information provided in the special survey appeared to reduce the percentage of people who had no opinion on the topic, and increased slightly the percentage of people who wanted both type of herd management and hunting opportunity.

Game Farm Pheasants

In the primary survey (question 25), we sought the views of the hunters regarding hunting provided by game farm pheasants. We pointed out in the special survey (Question 14) that 15,000 rooster pheasants had been reared annually at Idaho Department of Fish and Game game farms. Most of these birds were released just before the hunting season opened. Department personnel had found that about half of the released birds were bagged by hunters and few of the remainder survived over the winter. In 1971 the cost of producing roosters was about \$3.00 each; but if we count only those that end up in the bag the cost was about \$6.00 each. We also explained that the 7-8,000 game farm pheasants harvested annually amounted to less than 2% of the total pheasant harvest of 4-500,000 birds in Idaho each year. Game farm pheasants had

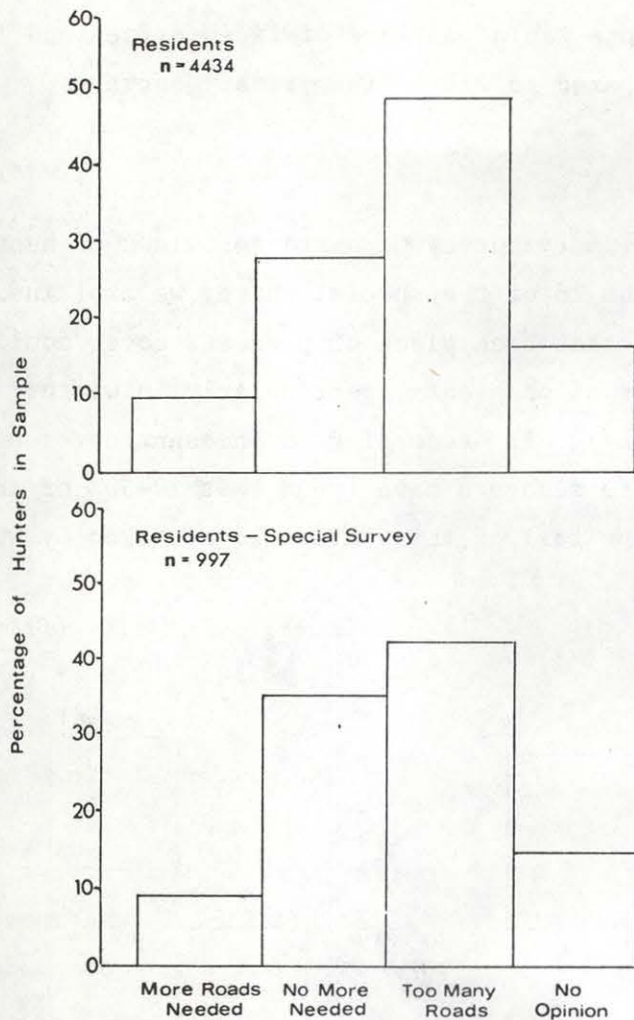


Figure 19. The percentage of residents in the primary and special surveys who thought more roads were needed, no more roads were needed, or there were already too many roads in big game hunting areas.

been used to provide or supplement pheasant hunting in areas that did not have adequate natural bird populations, usually because of poor habitat. We stated that wildlife managers were unsure about the desirability of using license fees to provide "put-and-shoot" hunting with game farm pheasants because of the cost per bird bagged by hunters and the small contribution to the total harvest.

The supplemental information provided in the special survey resulted in a decrease (44 to 31%) in the percentage of people who had no opinion on providing hunting with game farm pheasants (Fig. 21). Thirty-eight percent of the residents in the special survey thought "put-and-shoot"

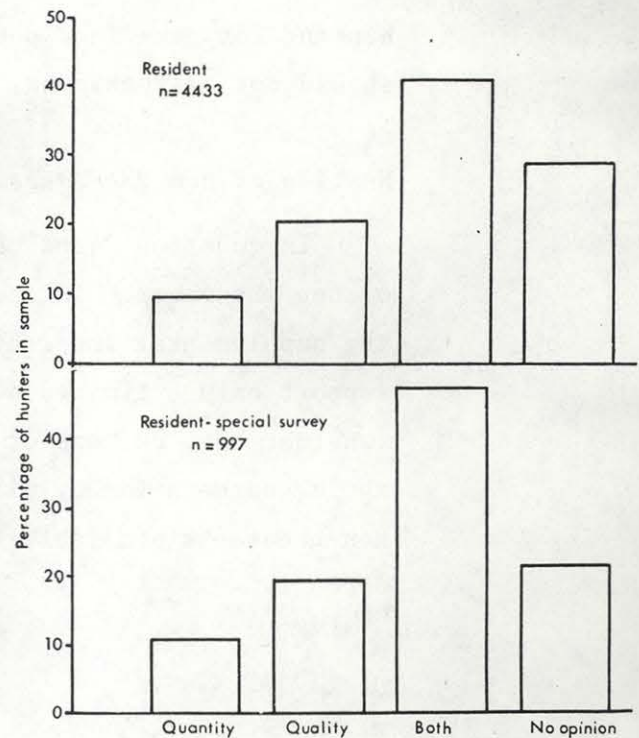


Figure 20. The percentage of residents in the primary and special surveys who wanted big game herds managed for quantity, quality, or both quantity and quality hunting.

hunting for game farm pheasants was a poor use of license fees and should not be continued, compared to 27% in the primary survey.

Hunting of Hen Pheasants

In question 24 of the primary survey we asked for views on hunting of hen pheasants. In question 16 of the special survey we explained in the supplemental information that each piece of pheasant cover could support only a limited number of pheasants, particularly in winter (whether they be hens or cocks). In areas of good pheasant cover such as in southern Idaho, wildlife managers have found that 20-30% of the hen pheasants available in the fall of the year could be taken by hunt-

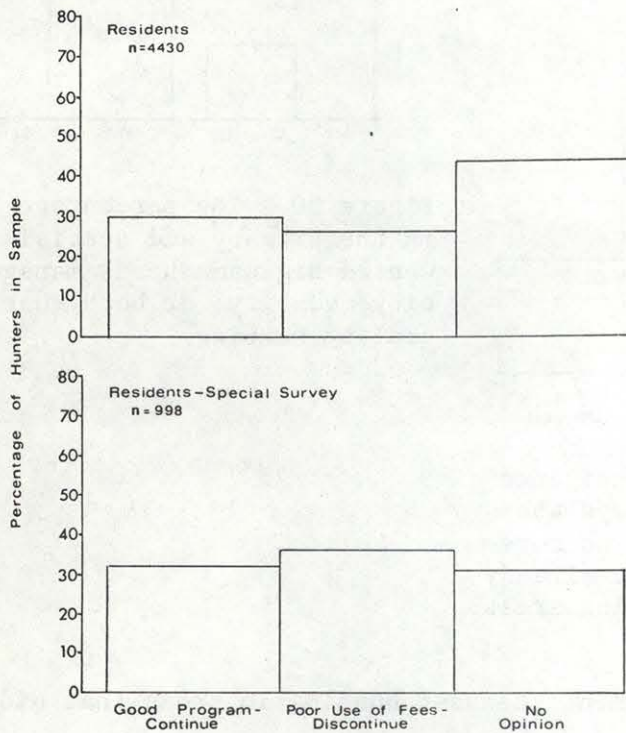


Figure 21. The percentage of residents in the primary and special surveys who thought hunting provided with game farm pheasants was a good program that should be continued or was a poor use of license fees and should be discontinued.

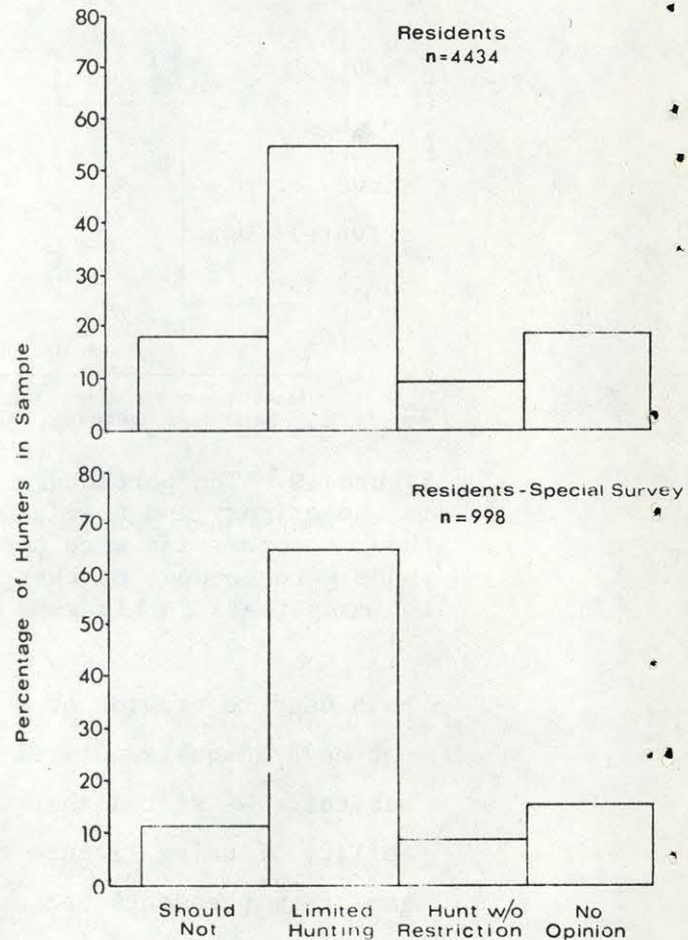


Figure 22. The percentage of residents in the primary and special surveys who thought hen pheasants should not be hunted, limited hunting for hen pheasants was proper, or hen pheasants should be hunted without restriction.

ing without affecting the next spring's production. The 20-30% that could be harvested are surplus hens that would be lost to natural mortality between October and the following April.

In both surveys, more than half the resident hunters thought limited numbers of hen pheasants could be taken by hunters under special regulations, season, or bag limits (Fig. 22). The supplemental information provided in the special survey increased (from 54 to 65%) the percentage who favored limited hunting for hen pheasants and decreased (from 18 to 12%) the percentage of people who thought hen pheasants should not be hunted at any time.

Noon Opening for Pheasants

In the primary survey (question 26), we asked people if they were satisfied with the noon opening for pheasants in southern Idaho or if they preferred an early morning opening. We explained in the special survey questionnaire that most pheasant hunting in Idaho takes place on privately owned farm land where hunting is by permission of the owner. The largest concentration of hunters occurs on opening day. The noon opening has been an aid to the landowner by giving him the time during the morning to get prepared for the influx of hunters. The noon opening also avoids the problem of hunters disturbing the landowners at an early morning hour to ask permission to hunt. We added that on the other hand, some people feel the noon opening causes a concentration of hunters, whereas an early morning opening would disperse hunting pressure throughout the day.

The supplemental information provided in the special survey resulted in a larger percentage (59 versus 48%) of the residents expressing a preference for the noon opening (Table 7). A smaller proportion of the resident hunters had no opinion on the opening time for pheasant hunting when provided with the supplemental information in the special survey. The preference for the noon opening, especially by residents in the special survey, may reflect their concern for the landowner in spite of the fact that an early morning opening may reduce the concentration of hunters.

Table 7. The percentage of residents in the primary and special surveys who preferred the noon or early morning opening times for pheasants in southern Idaho.

	Number in sample	Preferred time to open pheasant season		
		Noon	Early Morning	No Opinion
Resident - Primary Survey	4424	47.5	22.1	30.4
Resident - Special Survey	997	59.1	16.2	24.8

DISCUSSION

Supplemental information of the type provided in the special survey questionnaire changed the opinions of resident hunters primarily in those situations where the public was not sure of department policies or was unsure of the biological trade-offs or constraints involved in a particular set of alternatives. For example, the percentage of people who thought the commission restricted out-of-state hunters to the right number increased from 19% in the primary survey to 33% in the special survey when provided information on the commission's limitations. The percentage of resident hunters who approved the department's policies on regulating big game numbers and emergency winter feeding nearly doubled in the special survey where we explained the department's policies compared to the results of the primary survey. The percentage of resident hunters who thought the distribution of supplemental salt for big game animals was an unnecessary program increased from 5% in the primary survey to 21% in the supplemental survey when they were told that most biologists did not believe supplemental salt was necessary. The percentage of residents who thought the distribution of salt was necessary decreased from 61% in the primary survey to 34% in the special survey, however, some of those surveyed ended up having no opinion, perhaps an indication they were unwilling to accept completely the views of the biologist as explained in the supplemental information (Table 6).

The supplemental information presented in the special survey questionnaire had little effect on the opinions or preferences of resident hunters on issues involving social or economic judgments. The percentage

of residents who wanted to restrict the number of out-of-state hunters in Idaho was not influenced by the economic contribution of out-of-state hunters to the state or the Idaho Department of Fish and Game (Fig. 13). Presentation of the fact that only 14% of the hunters were out-of-staters, who contributed 58% of the revenue received from hunting license and tag sales caused only a small increase in percentage of people who were willing to pay more if the number of non-residents was significantly restricted (Table 5). The supplemental information regarding the expense and need for research in winter feeding programs did not reduce the percentage of resident hunters who thought the department should attempt to increase big game herds through supplemental winter feeding (Fig. 18). The supplemental information on winter feeding did increase slightly the percentage of people who thought the department should not attempt to increase big game herds in excess of the natural carrying capacity of the winter range. Most resident hunters were concerned about having too many roads in big game hunting areas and the supplemental information we provided on that topic did not change the response of the resident hunters. The information on cost of production and contribution to total harvest regarding game farm pheasants resulted in fewer people in the special survey having no opinion compared to the primary survey, but an increase in the percentage of people who thought "put-and-shoot" hunting for game farm pheasants was a poor use of license fees and who thought providing hunting with game farm pheasants was a good program (Fig. 21).

In most cases where significant shifts in opinion or preferences occurred as a result of providing supplemental information, the response of people in the special survey coincided more closely with those in a survey of Idaho Department of Fish and Game employees who responded to questions without the supplemental information (Bjornn 1975). Nineteen percent of the residents in the primary survey thought the commission limitation of out-of-state hunters was about right compared to 33% in the special survey and 58% of the department employees. Sixty-eight percent of the department employees thought the distribution of supplemental salt was unnecessary compared to 21% of the residents in the special survey and 5% in the primary survey. Thirty-two percent of the

residents in the primary survey approved the department's policy on regulating big game numbers versus 61% in the special survey and 77% of the department employees.

Although the supplemental information in the special survey reduced the difference in response in many cases, between resident hunters and department employees, there still remained some significant differences of opinion between resident hunters and department employees. Less than 4% of the resident hunters were willing to allow unrestricted numbers of out-of-state hunters in Idaho compared to 18% of the department employees. Twenty-nine percent of the department employees thought the commission should have allowed more non-residents to hunt in Idaho compared to only 3% of the resident hunters. Sixty-eight percent of the employees thought the distribution of supplemental salt for big game was an unnecessary program compared to only 5% of the residents in the primary survey and 21% of the residents who received the supplemental information in the special survey. Only 9% of the department employees thought the department should attempt to increase big game herds through supplemental winter feeding compared to half the residents in either the primary or special surveys. Seventy-one percent of the department employees thought the "put-and-shoot" hunting provided with game farm pheasants was a poor use of license fees and should not be continued compared to 36% of the residents even after receiving the supplemental information in the special survey.

Roger Williams, Chief of the Game Division, and other personnel of the Idaho Fish and Game Department assisted in the formulation of the questionnaires. Claude Clapsaddle provided the mailing lists and address labels. Sherry Anderson mailed the questionnaires and with Winona Richey transferred the data to key-punch forms from the questionnaires. Don Rose and Karen Falke of the University of Idaho Computer Center prepared the programs to process the data. Anne Frounfelker, Elaine and Eileen Bjornn tabulated much of the computer output and prepared the figures. Verabel Abbott and Merry Mast typed the manuscript.

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