

WYOMING
GAME AND FISH DEPARTMENT

Mike Sullivan, Governor



Francis E. Petera, Director

April 5, 1991

ATTITUDES OF WYOMING RESIDENTS ON
WOLF REINTRODUCTION AND RELATED ISSUES

Executive Summary

- o 44%* of Wyoming Residents Support Reintroducing Wolves to Yellowstone National Park.
 - 34.5% are opposed
 - 21.5% are undecided or have no opinion
- o Most Important Rationale for SUPPORT:
 - Important member of ecological community (41.0%)
 - Wolves historically present (40.7%)
- o Most Important Rationale For OPPOSITION:
 - Livestock losses unacceptably high (57.4%)
- o Sources of Information:
 - Newspapers (68.2%)
 - Television (45.0%)
 - Friends/Neighbors (22.0%)
 - Magazines/Books (21.3%)
- o Willingness To Bear Costs:
 - Support For Restrictions On:
 - Hiking/Camping (47.3%)
 - Commercial Activities (41.2%)
 - Access to Roads (35.6%)
 - Hunting (32.7%)
 - Support For Compensation For Livestock Losses (62.6%)
 - Paid for by Federal Government (45.9%)
 - Paid for by Conservation Groups (30.6%)
- o Support for WGFD Involvement in Wolf Reintroduction and Management
 - 61.6% Support Involvement in Restoration
 - 77.6% Support Involvement Monitoring Range Expansion Outside Park
 - 81.0% Support Involvement In Monitoring Population Trends
- o Acceptable Control Measures
 - Live Trap and Relocate (73.2%)
 - Hunting (47.4%)
 - Kill Trap (29.2%)
 - Poison (12.2%)

*95% Confidence +/- 3.0% N=804

YELLOWSTONE
NATIONAL PARK
LIBRARY

***ATTITUDES OF WYOMING
RESIDENTS ON WOLF REINTRODUCTION
AND RELATED ISSUES***

***Tom Thompson
MIS Specialist***

***Walt Gasson
Planning Coordinator***

***Wyoming Game and Fish Department
Cheyenne, Wyoming***

May 15, 1991

YELLOWSTONE
NATIONAL PARK
LIBRARY

INTRODUCTION

The United States Fish and Wildlife Service has been charged with recovery of wolf populations listed as endangered under the authority of the Endangered Species Act. A wolf recovery team was formed and in 1986, produced the Northern Rocky Mountain Wolf Recovery Plan. This plan recommended Yellowstone National Park and the surrounding wilderness areas as a potential site for reintroduction of the wolf (U.S. Fish and Wildlife Serv., 1986). This reintroduction proposal has stirred the interest of the public at both regional and national levels.

In order to gauge public attitudes toward wolves in Yellowstone National Park, McNaught (1987), surveyed visitors to the Park on the subject of wolves. Almost 82% felt that there was still a place for wolves in modern day Yellowstone National Park while nearly 60% agreed or strongly agreed with the statement "If wolves can't return to Yellowstone on their own, then we should put them back ourselves.". McNaught stated that "Pro-wolf responses outnumbered anti-wolf responses by nearly 9 to 1.". Of the residents of Idaho, Montana, and Wyoming who were surveyed while visiting the Park, 50% agreed that the wolf had a place in modern day Yellowstone, while only 35% disagreed.

In a statewide survey by mail of Wyoming residents, Bath (1987a) found 48.5% of the respondents in favor of wolf reintroduction to Yellowstone, 34.5% opposed, and 17% with no opinion. A similar survey

of the residents of northwest Wyoming, (Big Horn, Fremont, Hot Springs, Lincoln, Park, Sublette, Teton, and Washakie counties) by Bath (1987b), found 38.8% in favor of wolf reintroduction, 51.7% opposed, and 9.5% with no opinion. Bath (1987c) also surveyed members of special interest groups including the Wyoming Stock Growers association, Wyoming Defenders of Wildlife, and the Wyoming Wildlife Federation on the wolf reintroduction issue. Among members of the Stock Growers Association, 6.3% were in favor of reintroduction, 91.2% were opposed, and 2.5% had no opinion. Members of Defenders of Wildlife members responding to the survey were 89.2% in favor of reintroduction, 6.2% opposed, and 4.6% had no opinion. Among members of the Wyoming Wildlife Federation, 66.8% favored reintroduction, 22.1% were opposed and 11.1% had no opinion.

In order to obtain more current information on the attitudes of Wyoming residents, a survey on wolf reintroduction to Yellowstone National Park was undertaken by the Wyoming Game and Fish Department (WGFD). The survey had seven objectives. The first objective was to determine the degree of support or opposition to wolf reintroduction by a random sample of Wyoming residents statewide and by certain demographic groups within Wyoming. The second objective was to determine the most important reasons used by Wyoming residents for support or opposition to wolf reintroduction. The third and fourth objectives were to discover where the people of Wyoming get information on wolf reintroduction and the costs they are willing to bear to have wolves. A fifth objective was to measure public support

of residents statewide for compensation to livestock producers who suffer wolf depredation, and to ask who should pay any recommended compensation. The Game and Fish Department also sought to determine what role the public felt the Department should play in the wolf reintroduction issue. Lastly, the survey was designed to find which types of wolf control measures, if any, were acceptable to the public in Wyoming.

METHODS

A randomly generated phone list of 3100 telephone numbers for residents of the state of Wyoming was purchased from Survey Sampling, Inc. (One Post Road, Fairfield Conn. 06430). Our goal was to survey 800 Wyoming residents over the age of 19. Actual phone calling was contracted to the University of Wyoming Survey Research Center. The survey took place on the nights of March 20, 21, 23, 24, 25, and 26. Daytime calls were made when necessary. The dates included one session of Sunday afternoon calls.

The survey comprised 48 questions (Appendix 1). Of these, 8 were questions the interviewer answered for record keeping purposes. The maximum number of questions asked of any particular respondent was 40. The interviewers recorded the answers on paper copies which were later entered into a computerized database. The resulting database was then converted to an ASCII file for statistical analysis with SPSS/PC (Norusis, 1988).

RESULTS

A total of 1213 Wyoming residents were contacted during this survey. From this total, 804 residents agreed to participate in this survey while 409 refused for a 66% cooperation rate. Demographically, 53.8% of the respondents were female and 46.1% were male. During the 1980 census of Wyoming, the percentages of male residents was 51.2% compared to 44.8% females (Department of Administration and Fiscal Control 1987). Thus, females are somewhat over-represented in this survey based on 1980 census statistics. The average age of respondents was 44 years of age.

Along with the randomly generated phone lists purchased from Survey Sampling Inc., a breakdown of phone numbers by county in the sample was provided. To test for randomness and completeness of sampling, the percent of households completing this survey in each county should accurately reflect the percentage of households in each county based on estimates provided by Survey Sampling Inc. For the most part, this was the case with this survey. Fremont, Goshen, Park and Weston counties were slightly over represented. Counties that were slightly under-sampled (number of completed interviews greater than one percent under expected) were Carbon, Laramie, Natrona, and Uinta.

Hunters may have been slightly over represented in this survey. Respondents who replied that they had hunted in the last 12 months

comprised 35.7% of those surveyed. The National Survey of Hunting, Fishing and Wildlife-Associated Recreation reported 30% of Wyoming residents hunted (United States Department of the Interior, 1989). The Responsive Management pilot study conducted by the Wyoming Game and Fish Department in 1989 found 33.2% of the respondents hunted (Thompson et al. 1990).

Many respondents (75.9%) indicated that they had personally participated in wildlife related activities such as watching, feeding, or photographing wildlife in the past 12 months. Nearly 25% of the respondents reported that they, or someone in their family, was involved in a business that relied upon National Forest resources (such as logging, mining, oil and gas, livestock or outfitting). Just under 11% of the respondents claimed membership in an industry group such as the Wyoming Stock Growers Association, Wyoming Farm Bureau, or Petroleum Association of Wyoming. A small number of respondents (8.6%) replied that they were members of an environmental group such as the Sierra Club, Audubon Society, or Wyoming Wildlife Federation.

Objective 1:

When asked "Are you in favor of reintroducing wolves to Yellowstone National Park?", 44% of Wyoming residents were in favor, 34.5% were opposed, and 21.5% had no opinion or were undecided (Table 1). The 95% confidence interval on these estimates is +/- 3.4%.

 Table 1. Are you in favor of reintroducing wolves to Yellowstone N.P.?

<u>Group</u>	<u>No Opinion/</u>		
	<u>Yes</u>	<u>No</u>	<u>Undecided</u>
All respondents	44.0% (354)	34.5% (277)	21.5% (173)
Hunters	44.1% (126)	39.9% (114)	16.1% (46)
Nonconsumptive	46.5% (282)	33.9% (206)	19.6% (119)
Family in forest resource use	44.7% (88)	38.1% (75)	17.3% (34)
Member environmental group	60.9% (42)	30.4% (21)	14.8% (6)
Member industry group	16.5% (14)	63.5% (54)	20.0% (17)
Resident of counties near Park	38.6% (83)	43.7% (94)	17.7% (38)
Resident of other Wyoming counties	46.2% (270)	30.9% (181)	22.9% (134)
Males	47.4% (175)	37.4% (138)	15.2% (56)
Females	41.4% (178)	31.6% (136)	27.0% (116)

Numbers in parentheses indicate number of responses received.

Several of the groups studied, including nonconsumptive users, members of environmental groups, and both males and females supported wolf reintroduction. Most respondents who were members of an industry group, such as the Wyoming Farm Bureau, Wyoming Stock Growers Association or the Petroleum Association of Wyoming, opposed wolf reintroduction. Counties were also grouped for analysis (as in Bath,

1987b). Residents of Big Horn, Fremont, Hot Springs, Lincoln, Park, Sublette, Teton, and Washakie counties were designated as Wyoming residents who live near the Park. In general these respondents opposed wolf reintroduction, but the difference between supporters and opponents was not statistically significantly different. More residents of other Wyoming counties favored the proposal. Some groups, such as hunters and those with family members dependent on National Forest resources appeared to favor wolf reintroduction, but the difference between supporters and opponents was not statistically significantly different.

The chi-square statistic can be used to test the hypothesis that two variables are independent (Norusis, 1988). Two variables are independent if the probability that a case falls into a given cell in a contingency table (the observed value) equals the product of the marginal probabilities of the two categories defining the cell (the expected value) (Norusis, 1988). By calculating chi-square statistics, it was apparent that more hunters than expected opposed reintroduction and fewer hunters than expected had no opinion on the subject (Appendix 2, Table 1). Conversely, fewer nonhunters than expected opposed reintroduction and more than expected had no opinion.

Fewer respondents than expected who reported watching, feeding, or photographing wildlife in the past 12 months (nonconsumptive users) indicated they had no opinion on wolf reintroduction (Appendix 2, Table 2). Respondents who did not engage in these activities were

more likely to have no opinion and less likely to favor wolf reintroduction. There was no significant relationship between the respondents in this group or their immediate family members being dependent on forest resources and support or opposition to reintroduction of wolves (Appendix 2, Table 3).

Members of environmental groups were less likely to respond "no opinion" and more likely to support wolf reintroduction (Appendix 2, Table 4). Members of industry support groups were more likely to oppose wolf reintroduction than expected (Appendix 2, Table 5). Males were less likely to respond "no opinion" and females were more likely to respond "no opinion" on wolf reintroduction (Appendix 2, Table 5).

Residents of Laramie and Albany counties had strong preferences favoring wolf reintroduction, while Uinta county residents favored reintroduction, but not as strongly. Residents of Park and Washakie counties tended to strongly oppose wolf reintroduction, while residents of Platte, Big Horn, Niobrara, Johnson, Weston, and Teton counties exhibited similar, but weaker, opposition. Therefore, the residents of counties nearest the Park tended to oppose the wolf reintroduction plan. To look at this another way, residents of counties near the Park were grouped together as in Bath (1987b) for analysis. Residents of counties near the Park were more likely to oppose wolf reintroduction than expected, while residents in other counties were more likely to support the proposal than expected (Appendix 2, Table 6).

Respondents were asked "On a scale of 1 to 10, where 1 is very weak, and 10 is very strong, how strongly do you feel about this issue?". The average response to this question was 6.9 (Table 2), indicating that residents view this issue with relatively strong feelings.

Table 2. How strongly do you feel about this issue?

<u>Group</u>	<u>MEANS</u>		
	<u>Yes</u>	<u>No</u>	
All respondents	6.92		
Hunters	7.39	6.67	*
Nonconsumptive	7.06	6.51	*
Family in forest resource use	7.17	6.85	NS
Member environmental group	7.59	6.87	*
Member industry group	7.88	6.81	*
Counties near Park	7.24		*
Other Counties	6.81		
Males	7.28		*
Females	6.62		

* indicates significant difference at $p < .05$
 NS indicates no significant difference.

Except for respondents who had an immediate family member involved in a business dependent on National Forest resources, all other groups studied showed a significant difference in the strength of feeling on this issue. In other words, hunters, nonconsumptive users, members of environmental or industry groups, residents of counties nearer the Park, and males all felt more strongly on the issue than other respondents.

Objective 2:

Respondents in favor of wolf reintroduction were asked to give their primary reason(s) for this position. The phone interviewers were instructed NOT to list potential reasons, only to categorize the response(s) into one of the categories listed on the interview form. The interviewer was allowed to mark more than one answer. The list of responses (given in descending order of frequency) is shown in Table 3.

Table 3. What is your primary reason for being FOR a wolf reintroduction to Yellowstone National Park?

<u>Reasons</u>	<u>%</u>	<u>Sample Size</u>
Wolves are important members of the ecological community	41.0	(n=145)
Wolves were historically present	40.7	(n=144)
The wolf is an endangered species	16.7	(n=59)
That is what places like Yellowstone are for	13.8	(n=49)
Other reasons	11.9	(n=42)
I am fond of wolves	11.6	(n=41)
No reason given	5.1	(n=18)
To regulate big game populations	4.5	(n=16)
To be able to hunt or trap wolves	2.0	(n=7)

The most common reasons for favoring reintroduction used by respondents were that wolves are important members of the ecological community (41%) and that wolves were historically present in the Park (40.7%). That the wolf is an endangered species was important to only 16.7% of those favoring wolf reintroduction. Regulation of the numbers big game animals and ability to hunt or trap wolves were rarely mentioned.

Likewise, those that were not in favor of wolf reintroduction were asked to give their primary reason(s) for their position. As before, the phone interviewers were instructed not to list reasons, only to categorize the response(s). The list of responses (given in descending order of frequency) is shown in Table 4.

 Table 4. What is your primary reason for being AGAINST a wolf reintroduction to Yellowstone National Park?

<u>Reasons</u>	<u>%</u>	<u>Sample Size</u>
Unacceptably high livestock losses	57.4	(n=159)
Other reasons	32.1	(n=89)
Wolves would leave Park, spread to other parts of Wyoming	19.9	(n=55)
Unacceptable decline of big game populations	18.1	(n=50)
Inability of government to control outcome	10.8	(n=30)
No reason given	5.8	(n=16)
Unacceptably high program costs	2.9	(n=8)
Would lead to more government control over area	1.1	(n=3)

The overwhelming reason mentioned by those opposed to wolf reintroduction was the threat of unacceptably high livestock losses (57.4%). A variety of reasons that were not listed on the survey form made up the second most common category called "other reasons" (32.1%). The possibility that wolves would leave the Park and establish in other parts of Wyoming (19.9%), and decline of big game populations also were mentioned frequently (18.1%).

Respondents were asked a short series of questions based on their response to question 1 (Are you in favor of wolf reintroduction ...?). These questions were designed as another way to determine the rationale for support or opposition to wolf reintroduction. Those

respondents favoring wolf reintroduction were asked the series of questions in Table 5. Those who opposed wolf reintroduction were asked the series of questions shown in Table 6.

Table 5. Conditions which might change opinions of those in FAVOR of wolf reintroduction.

<u>Question</u>	<u>No Opinion/</u>		
	<u>Yes</u>	<u>No</u>	<u>Undecided</u>
Would you change your opinion if wolves killed a large number of livestock outside the Park boundary?	30.5% (108)	58.8% (208)	10.7% (38)
Would you change your opinion if wolves lowered population levels of big game animals both inside and outside the Park?	24.6% (87)	70.1% (248)	5.4% (19)
Would you change your opinion if many wolves left the Park and surrounding wilderness areas and established themselves in other areas of Wyoming?	15.3% (54)	78.0% (276)	6.8% (24)
Would you change your opinion if wolf reintroduction restricted hunting opportunities in areas surrounding the Park?	14.4% (51)	81.9% (290)	3.7% (13)
Would you change your opinion if commercial uses of the National Forests surrounding Yellowstone, like logging or oil and gas exploration, had to be more restricted?	9.9% (35)	84.2% (298)	5.9% (21)

Numbers in parentheses indicate number of responses received.

Nearly one third of those favoring wolf reintroduction responded that they would change their opinion if wolves killed a large number of livestock outside the Park boundary. Almost one quarter said they would change their opinion if wolf reintroduction brought lowered population levels of big game animals. Only 14.4% said they would change their opinion if hunting opportunities were restricted in areas surrounding the park. This suggests that respondent's fear of an outcome of lowered big game populations is not only due to decreased hunting opportunities.

Very few respondents in favor of wolf reintroduction would change their opinion if wolf reintroduction brought increased restrictions on the commercial uses of the surrounding National Forests. Residents near the Park were more likely than expected to change their opinions if commercial uses were restricted, if wolves killed livestock, or if hunting opportunities were restricted than were residents of other Wyoming counties. However, these results illustrate that the majority of those in favor of wolf reintroduction are not likely to change their opinions based on the circumstances listed.

Table 6. Conditions which might change opinions of those NOT in favor of wolf reintroduction.

<u>Question</u>	<u>No Opinion/</u>		
	<u>Yes</u>	<u>No</u>	<u>Undecided</u>
Would you change your opinion if it were possible to effectively keep wolves within the park and surrounding wilderness areas?	30.3% (84)	64.3% (178)	5.4% (15)
Would you change your opinion if big game populations were not seriously affected?	19.1% (53)	73.6% (204)	7.2% (20)
Would you change your opinion if wolf reintroduction resulted in no further restrictions on the use of surrounding National Forest lands?	17.3% (48)	75.5% (209)	7.2% (20)
Would your opinion change if a program of financial compensation for livestock losses attributed to wolves was implemented?	14.1% (39)	81.2% (225)	4.7% (13)
Would you change your opinion if wolves that killed livestock were killed?	13.7% (38)	80.1% (222)	6.1% (17)

Numbers in parentheses indicate number of responses received.

The condition most likely to change the opinion of respondents against wolf reintroduction, was the possibility of effectively keeping wolves inside the Park and surrounding wilderness areas (30.3%). Almost one fifth (19.1%) said their opinion would change if big game populations were unaffected by the presence of wolves. The

status of big game populations is a common concern for both those who oppose and favor wolf reintroduction. More than 10% of the respondents who oppose wolf reintroduction, would change their opinion if there were no further restrictions on National Forest uses, if a plan for financial compensation for livestock losses was implemented, or if livestock killing wolves were killed. Yet, overall, Wyoming residents opposing wolf reintroduction are not likely to change their position based on any of the circumstances listed Table 6.

Objective 3:

When asked if they had heard or read information about the proposed wolf reintroduction program in Yellowstone National Park, 85.6% of respondents that they had. Those who had heard or read information were then asked which sources of information they have used to form an opinion (Table 7). Possible sources of information on wolf reintroduction were listed for the respondent, and they could select as many sources as applied.

Table 7. Which sources of information have you used to form your opinion?

<u>Source</u>	<u>Yes</u>	<u>No</u>
Newspapers	68.2	31.8
Television	45.0	55.0
Friends and neighbors	22.0	78.0
Magazines and books	21.3	78.7
Radio	19.3	80.7
Other groups	11.6	88.4
WGFD	8.7	91.3
Federal Government	8.2	91.8

Newspapers and television were, by far, the most common sources of information on wolves used by Wyoming residents. It is clear that government agencies such as the Game and Fish Department and those in the Federal government, are not perceived as important sources of information on the subject despite their active involvement in the wolf reintroduction issue.

Objective 4:

To determine some of the costs residents would tolerate to have wolves in Wyoming, all respondents were asked a series of questions including several possible management actions that could be taken by

Table 8. Costs Wyoming residents were willing to bear.

	No Opinion/		
	Yes	No	Undecided
If wolves are reintroduced, I would support more wilderness areas being established in the National Forest lands around the Park.	55.6 (447)	36.6 (294)	7.7 (62)
If wolves are reintroduced, I would support hiking and camping restrictions in the Park and surrounding Forests.	47.3 (380)	45.3 (364)	7.3 (59)
If wolves are reintroduced, I would support restrictions on commercial activities (like logging, oil and gas exploration, and mining) in areas surrounding the Park.	41.2 (331)	46.4 (373)	12.3 (99)
If wolves are reintroduced, I would support closing or limiting access to roads in the Park and surrounding Forests where wolves are found.	35.6 (286)	55.3 (445)	9.0 (72)
If wolves are reintroduced, I would support big game hunting restrictions in the areas around Yellowstone.	32.7 (263)	57.6 (463)	9.6 (77)

Numbers in parentheses indicate number of responses received.

governmental agencies after wolf reintroduction. The questions and answers are listed in Table 8.

More than half of the respondents (55%), would favor additional wilderness areas being established in the National Forest lands around the Park if wolves are reintroduced. Furthermore, almost half (47.3%) of the respondents would support hiking and camping restrictions in Yellowstone and surrounding forests if wolves were reintroduced. It is interesting to note that both of these possible positions had more support among Wyoming residents than wolf reintroduction did (56% vs. 44% and 47% vs. 44%, respectively). This indicates that some who oppose reintroduction would view additional wilderness and hiking or camping restrictions favorably if wolves were reintroduced. It may even suggest that some respondents oppose wolf reintroduction because they believe existing restrictions will not adequately protect the wolf.

Over 40% of the respondents would support restrictions on commercial activities in areas surrounding the Park. One third of the respondents would also support limiting access to roads or big game hunting restrictions in the areas around Yellowstone. However, the majority of respondents were not in favor of such restrictions.

When the results were cross-tabulated with county of residency, residents nearer the Park were much less likely than were residents from other Wyoming counties to support hiking or camping restrictions,

commercial restrictions, hunting restrictions, access restrictions, or more wilderness areas.

Objective 5:

The fifth objective was to determine the level of support or opposition to compensation for livestock producers experiencing wolf predation, and who should pay such compensation. The answers are listed in Table 9, with sources of compensation listed in decreasing order of frequency.

Table 9. Compensation to ranchers for livestock losses.

	No Opinion/		
	Yes	No	Undecided
I support compensation for ranchers for livestock losses.	62.6%	25.4%	11.9%
	(503)	(204)	(96)
If yes, who should pay?			
Federal government	45.9	54.1	
Conservation groups	30.6	69.4	
All of above (Rancher, Fed. Gov., Conserv. groups, State of Wyo.)	21.7	78.3	
State of Wyoming	16.9	83.1	
None of above (Rancher, Fed. Gov., Conserv. groups, State of Wyo.)	4.4	95.4	0.2
Rancher	1.6	98.4	

Numbers in parentheses indicate number of responses received.

The majority of respondents (62.6%) favored compensation for livestock producers who have lost livestock to wolves. The Federal government and conservation groups were the most popular choices to pay such compensation. Over 80% replied that the State of Wyoming should not bear the financial responsibility for wolf depredation. Respondents were also overwhelmingly (98.4%) against ranchers bearing

sole financial responsibility of wolf predation as a cost of grazing leases on federal lands. Residents of counties near the Park were less likely to support compensation by the State of Wyoming and more likely to support compensation by conservation groups for depredation compared with residents of other counties.

Objective 6:

To determine what role the State of Wyoming should play in reintroduction and eventual management of wolves, respondents were asked several questions. Respondents were asked to rate, on a scale of 1 to 10, how confident they were in government agencies like the National Park Service doing a good job in restoring the wolf to Yellowstone National Park. The average response to this question was 5.3. Using the same scale, the respondent was asked about their level of confidence in government agencies like the National Park Service doing a good job in controlling the wolf in Yellowstone National Park. The overall average response to this question was 4.8. It seems that, in general, there is moderate confidence in government agencies to restore and control wolves in Yellowstone National Park.

Three questions were asked of respondents to determine the level of involvement that the Wyoming Game and Fish Department should seek in the wolf reintroduction program. The questions and results are given in Table 10.

Clearly, the majority of Wyoming residents (81%) were in favor of involvement by the Wyoming Game and Fish Department to monitor wolf

Table 10. Level of involvement of the Wyoming Game and Fish Department.

<u>Questions</u>	<u>No Opinion/</u>		
	<u>Yes</u>	<u>No</u>	<u>Undecided</u>
Should the Wyoming Game and Fish Department get involved with monitoring wolf population trends?	81.0% (650)	14.0% (112)	5.0% (40)
Should the Wyoming Game and Fish Department get involved with monitoring possible wolf range expansion to areas surrounding Yellowstone National Park?	77.6% (622)	17.5% (140)	5.0% (40)
Should the Wyoming Game and Fish Department get involved with the National Park Service program to restore the wolf in Yellowstone National Park?	61.6% (494)	30.0% (241)	8.4% (67)

Numbers in parentheses indicate number of responses received.

population trends should wolves be reintroduced. However, residents of counties near the Park were less likely than expected to support Game and Fish Department involvement. Over 77% of state residents felt that the WGFD should be involved in monitoring possible wolf range expansion. Most respondents (61.6%) felt that the Department should get involved with the National Park Service program to restore wolves to Yellowstone National Park. It is apparent that many respondents, even though opposed to wolf reintroduction, support Game and Fish Department involvement with the wolf reintroduction program. Recall, however, that this involvement probably does not extend to financial compensation for wolf depredation (see Objective 5).

Objective 7:

Objective 7 focused on which, if any, wolf control measures were acceptable to Wyoming residents. The questions and responses are given in Table 11.

Most Wyoming residents (64.6%) would like to see wolves kept within the confines of Yellowstone Park, if reintroduced (Table 11), indicating support for some kind of wolf control. Even more

Table 11. Questions concerning control measures acceptable to Wyoming residents.

	Yes	No Opinion/	
		No	Undecided
If reintroduced, wolves should be kept within the confines of the Park.	64.6%	24.6%	10.6%
	(519)	(199)	(85)
If problem wolves must be controlled, control programs should occur ...			
Inside Park	9.6%		
Outside Park	8.7%		
Both	76.8%		
Neither	4.9%		
If a reintroduced wolf killed livestock, then the problem wolf should be killed.			
	56.8%	28.6%	14.6%
	(455)	(229)	(117)
If wolf reintroduction should occur, what control measures are acceptable to you?			
Live trapping and relocation	73.2%	26.8%	
Hunting	47.4%	52.6%	
Kill trapping	29.2%	70.8%	
Poison	12.2%	87.8%	

Numbers in parentheses indicate number of responses received.

respondents (76.8%) favored wolf control measures being taken both within Yellowstone National Park and outside it's borders. Fewer

respondents (57%) felt that wolves that preyed upon livestock should be killed. Respondents from counties near the Park were more likely than expected to support the suggestion that wolves that preyed upon livestock be killed.

When asked what control measures were acceptable (respondents could answer more than once), most residents (73.2%) felt that live trapping and relocation were acceptable control measures. Almost half of the respondents (47.4%), felt that hunting wolves was an appropriate wolf control measure. Kill-trapping was agreeable to only 29.2% of the respondents. Only 12.2% of the respondents favored poison as an acceptable alternative. Residents of counties nearer the Park were less likely than expected to support live trapping of wolves, and more likely than expected to support kill trapping, hunting, and poisons.

DISCUSSION

The survey by the Wyoming Game and Fish Department on wolf reintroduction found 44% of the citizens of Wyoming in favor of wolf reintroduction. This is slightly lower than the response in favor found in Bath's (1987a) mail survey (48.5%), but this difference is probably not statistically significantly different. This suggests that the percentage of Wyoming residents favoring or opposing wolf reintroduction to Yellowstone National Park has not changed much in the past 4 years. This is consistent with the view that

wolf reintroduction is an emotional issue and that Wyoming residents are not likely to change their opinions.

There was a tendency for residents of counties located closer to the Park to oppose wolf reintroduction. Bath (1987b) found that only 38.8% favored wolf reintroduction in the counties that are near Yellowstone National Park (including Big Horn, Fremont, Hot Springs, Lincoln, Park, Sublette, Teton, and Washakie), while statewide support in his survey was 48.5%. The present survey found several areas of significant differences between residents of counties near the Park and residents of other Wyoming counties.

Response by members of an industry group (among those specifically mentioned by interviewers was the Wyoming Stock Growers Association), showed 16.5% were in favor of reintroduction, compared to 6.3% of the members of the Wyoming Stock Growers Association who favored wolf reintroduction in Bath (1987c). This difference may be due to several factors. The sample size of those responding that they were members of an industry group was small, 85 in this survey, 80 in Bath's survey (1987c). It could be that industry group members are more in favor of wolf reintroduction than members of the Wyoming Stock Growers Association. Additionally, Bath (1987c) stated that the Wyoming Stock Growers Association did not want to participate in a mail-out survey. Therefore, the survey was administered at the Wyoming Stock Growers Association annual meeting in Casper in 1986. Members of the organization attending that meeting may not have been

representative of the organization as a whole on the wolf reintroduction issue. Filling out the survey in such a group setting may have lead to more homogeneous behavior in respondents due to peer pressure (Bath 1987c).

Bath (1987c) found 89.2% (n=130) of the members of the Defenders of Wildlife and 66.8% (n=244) of the members of the Wyoming Wildlife Federation favored wolf reintroduction. In the present survey we found that 60.9% (n=69) of those who claimed membership in an environmental group (among those specifically mentioned was the Wildlife Federation) favored wolf reintroduction. It should be noted that some members of the Wyoming Wildlife Federation surveyed by Bath (1987c) were not residents of Wyoming.

Hunters were more likely than expected to oppose wolf reintroduction. Those who did not watch, feed or photograph wildlife were also less likely than expected to support reintroduction. Males were less likely than expected to report "no opinion" on wolf reintroduction. The remaining responses were evenly divided between support and opposition to reintroduction. Females were more likely to report "no opinion".

Bath's (1987a) statewide survey reported program costs (25.1%) as the most frequently cited reason for being against wolf reintroduction. Livestock losses was the second (13.1%) most frequently cited reason and big game population decline as third, at

9.9%. However, we found that program costs was far down the list of reasons for being against wolf reintroduction. The most common reasons were high livestock losses, wolves spreading to other parts of Wyoming, and decline of big game populations. This difference may be due to differences in methodology. Bath's method was to list four possible answers to the question "What is your primary reason for being against a wolf reintroduction to Yellowstone National Park?" and respondents had to select one reason. In the WGFD survey, the same question was asked and the interviewer selected the response on the interview form that was most like the response given by the respondent. Additionally, more than one response was allowed.

In Bath's (1987a) statewide survey, only 16.2% of respondents would change their opinion if it were possible to keep wolves inside the Park and surrounding wilderness areas. The WGFD survey found that over 30% would change their opinion under those circumstances. This indicates that fear of range expansion by wolves is important in the decision to oppose wolves in Yellowstone, and has perhaps become more important recently.

Most Wyoming residents responded that they formed their opinions on the wolf reintroduction issue from reading newspapers and watching television. It is very clear that the public does not choose to get their information from governmental agencies like the Game and Fish Department or the Federal agencies.

Only 6.3% of those not in favor of reintroduction in Bath's (1987a) statewide survey, would change their opinion if a compensation program for livestock losses was implemented. The WGFD survey found that over 14% would change their opinion in similar circumstances. It is important to remember that there appears to be core of reintroduction supporters and a core of opponents to reintroduction that will not change their opinion under any of the circumstances listed. However, 30% of the supporters would change their opinion if wolves killed a large number of livestock outside of the Park. Perhaps fearing livestock losses, 30% of the opponents would change their opinions if wolves could be effectively kept in the Park area. Therefore, while there are strong cores of support for both sides of this issue, there are remains a significant group of people whose opinion could change, or who are still undecided about the issue. Their concerns should not be overlooked.

There was strong support among the general public for more wilderness areas and hiking/camping restrictions should wolves be reintroduced. The support for these restrictions was actually higher than for the reintroduction question itself. More than one third of the public would also support restrictions on commercial activities like logging and mineral exploration and access to roads where wolves are found as well as on big game hunting if wolves were reintroduced. Residents of counties near the Park were much less likely to support any of these restrictions.

There was only moderate confidence expressed in the ability of government agencies like the National Park Service to restore and control wolves in Yellowstone National Park. There was strong support for Wyoming Game and Fish Department to be involved in monitoring wolf population trends if wolves were reintroduced as well as monitoring possible wolf range expansion. There was less direct support for Game and Fish Department involvement with the National Park Service to implement restoration of wolves to Yellowstone.

Many Wyoming citizens favor the idea that wolves should be kept within the borders of Yellowstone National Park, indicating the need for some kind of wolf population control. There was strong support for controlling wolf populations both inside and outside the Park. Bath's statewide survey (1987a) found 58.5% of residents agreed that reintroduced wolves that killed livestock should be killed. Similarly, this survey found 56.8% of Wyoming residents agreeing with that statement. The majority of Wyoming residents preferred live trapping and relocation of problem wolves as a means of population control.

Wolf reintroduction has inspired much debate among Wyoming residents opposed to, and in favor of, their presence. Clearly, agencies need to keep the public informed of the decision making process and closely evaluate and monitor public opinion as the decision is made.

REFERENCES

- Bath, Alistair J. 1987a. Statewide Survey of the Wyoming General Public Attitude Towards Wolf Reintroduction in Yellowstone National Park., Report submitted to the U.S. National Park Service. 95pp.
- Bath, Alistair J. 1987b. Countywide Survey of the Wyoming General Public Attitude Towards Wolf Reintroduction in Yellowstone National Park., Report submitted to the U.S. National Park Service. 95pp.
- Bath, Alistair J. 1987c. Attitude of Various Interest Groups in Wyoming Towards Wolf Reintroduction in Yellowstone National Park., M.S. Thesis, University of Wyoming, Laramie Wyo. 124pp.
- Department of Administration and Fiscal Control. 1987. Wyoming Data Handbook. Department of Administration and Fiscal Control, Division of Research and Statistics. Cheyenne, Wyoming. 237pp.
- Norusis, M.J. 1988. SPSS/PC+ V2.0 Base Manual. SPSS, Inc., Chicago, Illinois.
- United States Department of the Interior. 1989. The 1985 National Survey of Fishing, Hunting and Wildlife-Associated Recreation, Wyoming. USDI, U.S. Fish and Wildlife Service. Washington, D.C. 81pp.
- U.S. Fish and Wildlife Service. 1986. Northern Rocky Mountain wolf recovery plan. U.S. Fish and Wildlife Service. Denver, Colo. 99pp.
- Thompson, T., P. Moe, and W. Gasson. 1990. The Wyoming Responsive Management Pilot Test. Wyoming Game and Fish Department. Cheyenne, Wyoming. 74pp.

APPENDIX 1

A:\WOLF2.TXT

03-14-1991

YELLOWSTONE PARK WOLF REINTRODUCTION QUESTIONNAIRE

1. Current date

1:1-6

|_|_|-|_|_|-|_|_|
Year Month Day

2. Start time

1:7-11

|_|_|_|_|_|

3. Are you in favor of reintroducing wolves
to Yellowstone National Park?

(CHECK ONLY ONE ANSWER)

1:12

- |_| 1. Yes (GOTO QUESTION 4)
|_| 2. No (GOTO QUESTION 10)
|_| 3. No Opinion/Undecided (GOTO QUESTION 16)

4. What is your primary reason for being FOR a wolf
reintroduction to Yellowstone National Park?

(CHECK ALL THAT APPLY) (DO NOT LIST ANSWERS!)

1:13

- |_| 1. No reason given
|_| 2. Historically wolves were present
|_| 3. To regulate big game numbers
|_| 4. Because the wolf is an endangered species
|_| 5. They are important members of the ecological community
|_| 6. I am fond of wolves
|_| 7. To be able to hunt or trap them
|_| 8. That's what places like Yellowstone are for
|_| 9. Other _____

5. Would you change your opinion if commercial uses of the National
Forests surrounding Yellowstone, like logging or oil and gas
exploration, had to be more restricted?

(CHECK ONLY ONE ANSWER)

1:14

- |_| 1. Yes
|_| 2. No
|_| 3. No Opinion

YELLOWSTONE PARK WOLF REINTRODUCTION QUESTIONNAIRE Page 2

6. Would you change your opinion if wolves killed a large number of livestock outside the Park boundary?

(CHECK ONLY ONE ANSWER)

1:15

- ☐ 1. Yes
☐ 2. No
☐ 3. No Opinion

7. Would you change your opinion if wolves lowered population levels of big game animals both inside and outside the Park?

(CHECK ONLY ONE ANSWER)

1:16

- ☐ 1. Yes
☐ 2. No
☐ 3. No Opinion

8. Would you change your opinion if wolf reintroduction restricted hunting opportunities in areas surrounding the Park?

(CHECK ONLY ONE ANSWER)

1:17

- ☐ 1. Yes
☐ 2. No
☐ 3. No Opinion

9. Would you change your opinion if many wolves left the Park and surrounding wilderness areas and established themselves in other areas of Wyoming?

(CHECK ONLY ONE ANSWER)

1:18

- ☐ 1. Yes (GOTO QUESTION 15)
☐ 2. No (GOTO QUESTION 15)
☐ 3. No Opinion (GOTO QUESTION 15)

YELLOWSTONE PARK WOLF REINTRODUCTION QUESTIONNAIRE Page 3

10. What is your primary reason for being AGAINST a wolf reintroduction to Yellowstone National Park?

(CHECK ALL THAT APPLY) (DO NOT LIST ANSWERS!)

1:19

- ☐ 1. No reason given
- ☐ 2. Livestock losses would be unacceptably high
- ☐ 3. Costs of program would be unacceptably high
- ☐ 4. Unacceptable decline of big game animals
- ☐ 5. Wolves would leave the Park area and spread to other parts of W
- ☐ 6. Reintroduction of wolves would lead to more government control
- ☐ 7. Inability of Government agencies to control the outcome
- ☐ 8. Other _____

11. Would you change your opinion if wolves that killed livestock were killed?

(CHECK ONLY ONE ANSWER)

1:20

- ☐ 1. Yes
- ☐ 2. No
- ☐ 3. No Opinion

12. Would your opinion change if a program of financial compensation for livestock losses attributed to wolves was implemented?

(CHECK ONLY ONE ANSWER)

1:21

- ☐ 1. Yes
- ☐ 2. No
- ☐ 3. No Opinion

13. Would you change your opinion if big game populations were not seriously affected?

(CHECK ONLY ONE ANSWER)

1:22

- ☐ 1. Yes
- ☐ 2. No
- ☐ 3. No Opinion

14. Would you change your opinion if were possible to effectively keep wolves within the park and surrounding wilderness areas?

(CHECK ONLY ONE ANSWER)

1:23

- ☐ 1. Yes
☐ 2. No
☐ 3. No Opinion

15. Would you change your opinion if wolf reintroduction resulted in no further restrictions on the use of surrounding National Forest lands?

(CHECK ONLY ONE ANSWER)

1:24

- ☐ 1. Yes
☐ 2. No
☐ 3. No Opinion

16. On a scale of 1 to 10, where 1 is very weak, and 10 is very strong, how strongly do you feel about this issue?

1:25-26

☐ ☐

17. Have you heard or read information about the proposed wolf reintroduction program in Yellowstone National Park?

(CHECK ONLY ONE ANSWER)

1:27

- ☐ 1. Yes
☐ 2. No
☐ 3. No Opinion

18. Which sources of information have you used to form your opinion?

(CHECK ALL THAT APPLY) (YOU MAY LIST ANSWERS)

1:28

- ☐ 1. Television
☐ 2. Magazines and Books
☐ 3. Newspapers
☐ 4. Radio
☐ 5. Friends and Neighbors
☐ 6. The Wyoming Game and Fish Department
☐ 7. Federal Government agencies (Park Service, Forest Service, Etc.)
☐ 8. Other groups (Wyoming Stockgrowers Assoc., Sierra Club, etc.)

YELLOWSTONE PARK WOLF REINTRODUCTION QUESTIONNAIRE Page 5

19. I am going to read you a series of statements and I would like you to respond with Yes, No or No Opinion. OK?
If wolves are reintroduced, I would support hiking and camping restrictions in the Park and surrounding Forests.

(CHECK ONLY ONE ANSWER)

1:29

- ☐ 1. Yes
☐ 2. No
☐ 3. No Opinion

20. If wolves are reintroduced, I would support restrictions on commercial activities (like logging, oil and gas exploration, and mining) in areas surrounding the Park.

(CHECK ONLY ONE ANSWER)

1:30

- ☐ 1. Yes
☐ 2. No
☐ 3. No Opinion

21. If wolves are reintroduced, I would support big game hunting restrictions in the areas around Yellowstone.

(CHECK ONLY ONE ANSWER)

1:31

- ☐ 1. Yes
☐ 2. No
☐ 3. No Opinion

22. If wolves are reintroduced, I would support closing or limiting access to roads in the Park and surrounding Forests where wolves are found.

(CHECK ONLY ONE ANSWER)

1:32

- ☐ 1. Yes
☐ 2. No
☐ 3. No Opinion

23. If wolves are reintroduced, I would support more wilderness areas being established in the National Forest lands around the Park.

(CHECK ONLY ONE ANSWER)

1:33

- ☐ 1. Yes
☐ 2. No
☐ 3. No Opinion

YELLOWSTONE PARK WOLF REINTRODUCTION QUESTIONNAIRE Page 6

24. I support compensation for ranchers for livestock losses.

(CHECK ONLY ONE ANSWER)

1:34

- ☐ 1. Yes (GOTO QUESTION 25)
- ☐ 2. No (GOTO QUESTION 26)
- ☐ 3. No Opinion (GOTO QUESTION 26)

25. Who should pay the costs of livestock killed by wolves?

(CHECK ALL THAT APPLY) (YOU MAY LIST ANSWERS)

1:35

- ☐ 1. Rancher
- ☐ 2. Federal Government
- ☐ 3. State of Wyoming
- ☐ 4. Conservation Groups (Defenders of Wildlife, etc.)
- ☐ 5. All the above
- ☐ 6. None of the above

26. If reintroduced, wolves should be kept within the confines of Yellowstone National Park.

(CHECK ONLY ONE ANSWER)

1:36

- ☐ 1. Yes
- ☐ 2. No
- ☐ 3. No Opinion

27. On a scale from 1 to 10, where 1 is not at all confident, and ten is very confident, how confident are you in government agencies like the National Park Service doing a good job in restoring the wolf in Yellowstone National Park?

1:37-38

☐ ☐ ☐

28. Using the same scale from 1 to 10, how confident are you in government agencies like the National Park Service doing a good job in controlling the wolf in Yellowstone National Park?

1:39-40

☐ ☐ ☐

YELLOWSTONE PARK WOLF REINTRODUCTION QUESTIONNAIRE Page 7

29. Should the Wyoming Game and Fish Department get involved with the National Park Service program to restore the wolf in Yellowstone National Park?

(CHECK ONLY ONE ANSWER)

1:41

- ☐ 1. Yes
☐ 2. No
☐ 3. No Opinion

30. Should the Wyoming Game and Fish Department get involved with monitoring possible wolf range expansion to areas surrounding Yellowstone National Park?

(CHECK ONLY ONE ANSWER)

1:42

- ☐ 1. Yes
☐ 2. No
☐ 3. No Opinion

31. Should the Wyoming Game and Fish Department get involved with monitoring wolf population trends?

(CHECK ONLY ONE ANSWER)

1:43

- ☐ 1. Yes
☐ 2. No
☐ 3. No Opinion

32. If problem wolves must be controlled, control programs should occur...

(CHECK ONLY ONE ANSWER)

1:44

- ☐ 1. Inside Park boundaries
☐ 2. Outside Park boundaries
☐ 3. Both
☐ 4. Neither

33. If a reintroduced wolf killed livestock, then the problem wolf should be killed.

(CHECK ONLY ONE ANSWER)

1:45

- ☐ 1. Yes
☐ 2. No
☐ 3. No Opinion

YELLOWSTONE PARK WOLF REINTRODUCTION QUESTIONNAIRE Page 8

34. If wolf reintroduction should occur, what control measures are acceptable to you?

(CHECK ONLY ONE ANSWER)

1:46

- ☐ 1. Live trapping and relocation
- ☐ 2. Kill trapping
- ☐ 3. Poison
- ☐ 4. Hunting

35. THE FINAL FEW QUESTIONS ARE BACKGROUND INFORMATION TO HELP US ANALYZE THE RESPONSES.

Did YOU PERSONALLY participate in recreational hunting IN WYOMING in the past 12 months?

(CHECK ONLY ONE ANSWER)

1:47

- ☐ 1. Yes
- ☐ 2. No

36. Did YOU PERSONALLY spend time watching, feeding, or photographing wildlife in the past 12 months?

(CHECK ONLY ONE ANSWER)

1:48

- ☐ 1. Yes
- ☐ 2. No

37. Are you or someone in your immediate family involved in a business which relies on National Forest resources such as logging, mining, oil and gas, livestock or outfitting?

(CHECK ONLY ONE ANSWER)

1:49

- ☐ 1. Yes
- ☐ 2. No
- ☐ 3. Don't Know/Refused

38. Do you currently belong to an environmental group such as the Sierra Club, Audubon Society, or Wyoming Wildlife Federation?

(CHECK ONLY ONE ANSWER)

1:50

- ☐ 1. Yes
- ☐ 2. No
- ☐ 3. Refused

YELLOWSTONE PARK WOLF REINTRODUCTION QUESTIONNAIRE Page 9

39. Do you currently belong to an industry group such as the Wyoming Stockgrowers Assoc., Wyoming Farm Bureau, or Petroleum Assoc. of Wyoming etc.?

(CHECK ONLY ONE ANSWER)

1:51

- ☐ 1. Yes
☐ 2. No
☐ 3. Refused

40. What county do you live in?

(EXPLAIN WE WANT A ROUGH IDEA
OF THEIR PLACE OF RESIDENCE)
(enter first four letters of county)
(DON'T KNOW OR REFUSED IS UNKN)

1:52-55

41. What is your age?

IF HESITANT, ASK YEAR BORN AND CALCULATE AGE
DON'T KNOW OR REFUSED IS CODED 999

1:56-58

42. *****
IF YOU ARE UNABLE TO TELL THE
SEX OF THE RESPONDENT, THEN ASK...
Are you a male or female?

(CHECK ONLY ONE ANSWER)

1:59

- ☐ 1. Male
☐ 2. Female
☐ 3. Refused

43. That's the end of the questionnaire.
Thank you very much for your time and
cooperation.

(CHECK ONLY ONE ANSWER)

1:60

☐ 1. You can hang up and then press RETURN to continue

44. End time

1:61-65

YELLOWSTONE PARK WOLF REINTRODUCTION QUESTIONNAIRE Page 10

45. Enter the telephone number called

1:66-72

|_|_|_|_|-|_|_|_|_|

46. Was this call...

(CHECK ONLY ONE ANSWER)

1:73

- |_| 1. Completed successfully
- |_| 2. A refusal
- |_| 3. Terminated by respondent
- |_| 4. Disconnected
- |_| 5. Call back later
- |_| 6. A mistake, do not save answers

47. Please enter your initials

1:74-76

|_|_|_|_|

48. THE END

(CHECK ONLY ONE ANSWER)

1:77

- |_| 1. PRESS RETURN

APPENDIX 2.

Table 1. Crosstabulation of "Did you hunt?" and "Are you in favor of reintroducing wolves to Yellowstone National Park."

Are you in favor of reintroducing wolves...?

Hunt?	Count 1Exp Val 2Std Res	Yes	No	No Opinion	Row Total
Yes	1	126	114	46	286
		126.4	98.2	61.4	35.7%
		-.0	1.6	-2.0	
No	2	228	161	126	515
		227.6	176.8	110.6	64.3%
		.0	-1.2	1.5	
Column Total		354 44.2%	275 34.3%	172 21.5%	801 100.0%
Chi-Square	D.F.	Significance		Min E.F.	Cells with E.F.< 5
-----	-----	-----		-----	-----
9.97799	2	.0068		61.413	None

Number of Missing Observations = 3

1 = Expected Value, obtained by multiplying row percentages by column percentages and multiplying that product by the total sample size.

2 = Standardized Residual, the square root of the Chi-square statistic.

Table 2. Crosstabulation of "Did you watch, feed, or photograph wildlife..." and "Are you in favor of reintroducing wolves to Yellowstone National Park?"

Are you in favor of reintroducing wolves...?

WATCH?	Count Exp Val Std Res	Yes	No	No Opinion	Row Total
Yes	1	282 267.8 .9	206 208.7 -.2	119 130.5 -1.0	607 75.9%
	2	71 85.2 -1.5	69 66.3 .3	53 41.5 1.8	193 24.1%
	Column Total	353 44.1%	275 34.4%	172 21.5%	800 100.0%
Chi-Square	D.F.	Significance		Min E.F.	Cells with E.F.< 5
-----	----	-----		-----	-----
7.44790	2	.0241		41.495	None
Number of Missing Observations =				4	

Table 3. Crosstabulation of "Are you or someone in your immediate family involved in a business that relies on National Forest resources...?" and "Are you in favor of reintroducing wolves to Yellowstone National Park?"

Are you in favor of reintroducing wolves...?

Business?	Count				Row Total
	Exp Val Std Res	Yes	No	No Opinion	
Yes	1	88	75	34	197
		86.8	67.8	42.4	24.7%
		.1	.9	-1.3	
No	2	264	200	138	602
		265.2	207.2	129.6	75.3%
		-.1	-.5	.7	
	Column Total	352 44.1%	275 34.4%	172 21.5%	799 100.0%
Chi-Square	D.F.	Significance		Min E.F.	Cells with E.F.< 5
-----	-----	-----		-----	-----
3.24875	2	.1970		42.408	None
Number of Missing Observations =				0	

Table 4. Crosstabulation of "Are you a member of an environmental group?" and "Are you in favor of reintroducing wolves to Yellowstone National Park?"

Are you in favor of reintroducing wolves...?

Envir. Group?	Count Exp Val Std Res	Yes	No	No Opinion	Row Total
Yes	1	42 30.5 2.1	21 23.7 -.5	6 14.9 -2.3	69 8.6%
	2	311 322.5 -.6	253 250.3 .2	166 157.1 .7	730 91.4%
	Column Total	353 44.2%	274 34.3%	172 21.5%	799 100.0%
Chi-Square	D.F.	Significance		Min E.F.	Cells with E.F.< 5
-----	----	-----		-----	-----
10.86511	2	.0044		14.854	None
Number of Missing Observations =				0	

Table 5. Crosstabulation of "Are you a member of an industry group?" and "Are you in favor of reintroducing wolves to Yellowstone National Park?"

Are you in favor of reintroducing wolves...?

Industry Group?	Count Exp Val Std Res				Row Total	
		Yes	No	No Opinion		
Yes	1	14	54	17	85	
		37.5	29.2	18.3	10.6%	
		-3.8	4.6	-.3		
No	2	339	221	155	715	
		315.5	245.8	153.7	89.4%	
		1.3	-1.6	.1		
	Column Total		353	275	172	800
			44.1%	34.4%	21.5%	100.0%
Chi-Square	D.F.	Significance		Min E.F.	Cells with E.F.< 5	
-----	----	-----		-----	-----	
40.09922	2	.0000		18.275	None	

Number of Missing Observations = 4

Table 5. Crosstabulation of "County of residency?" and "Are you in favor of reintroducing wolves to Yellowstone National Park?"

Are you in favor of reintroducing wolves...?

	Count Exp Val Std Res	County*		Row Total
		1	2	
Yes	1	270 258.1 .7	83 94.9 -1.2	353 44.1%
	2	181 201.1 -1.4	94 73.9 2.3	275 34.4%
	3	134 125.8 .7	38 46.2 -1.2	172 21.5%
Column Total		585 73.1%	215 26.9%	800 100.0%

*County=1 includes Big Horn, Fremont, Hot Springs, Lincoln, Park, Sublette, Teton, and Washakie counties.

County=2 includes all other Wyoming counties.

Chi-Square	D.F.	Significance	Min E.F.	Cells with E.F.< 5
11.50290	2	.0032	46.225	None

Number of Missing Observations = 4

42
3
1

