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Community Health Survey - Assessment of Resident Health Needs and Concerns

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Community Health Survey

Assessment of Resident Health

Needs and Concerns



Bonneville and Ada Counties, Idaho

Fremont and Laramie Counties, Wyoming

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Prepared for: Keep Yellowstone Nuclear Free

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Section 1 Summary

The Community Health Survey was administered in Ada and Bonneville Counties, Idaho, and Fremont and Laramie Counties, Wyoming, in 2003. Response rates of 14.6% in Ada county, 17.5% in Bonneville county, 16.7% in Fremont county, and 16.6% in Laramie county were achieved, for 216, 263, 250, and 249 completed survey received, respectively.

Ada County, Idaho

Residents of Ada county, Idaho, feel a strong connection between personal health and the environment. They are quite concerned about exposure to natural and man-made radiation, but are even more concerned about exposure to hazardous chemicals. While few residents feel their health has been harmed by exposure to natural or man-made radiation, more than a quarter feel their health has been harmed by exposure to hazardous chemicals. Nearly one-third of residents are uncertain if their health has been harmed by any of these sources. Roughly 70 percent of residents feel informed about the effects of exposure to natural and man-made radiation and hazardous chemicals, but only about 35 percent feel there is adequate information available on the effects of exposure to these elements. Sixty-four percent of residents know someone in their county - excluding themselves or members of their family - that has cancer now or had it in the past. This is commonly prostate or lung cancer or melanoma in adult males, breast, ovarian, or lung cancer or melanoma in adult females, and leukemia in boys and girls. Very few respondents have or had cancer themselves, while nearly half have or had family members afflicted with cancer. Of the 5 percent with cancer, they had been diagnosed an average of 5 years ago and 86 percent are in remission or cured. The vast majority of respondents rate their overall health as average or excellent, with allergies and high blood pressure the most common non-cancerous ailments they face. Residents are not likely to eat wild game on a regular basis or grow their own produce. They are not exposed to hazardous chemicals at home or work on a frequent basis and are unlikely to use tobacco products. Respondents have lived in Ada county an average of 16 years.

Bonneville County, Idaho

More than three-fourths of residents of Bonneville county, Idaho, feel there is a link between the environment and personal health. Nearly half are unconcerned about exposure to natural radiation, but far more are concerned about exposure to man-made radiation and hazardous chemicals. Most do not feel their health has been harmed by these sources, though roughly one-fourth are uncertain. Residents generally feel informed about the effects of exposure to elements of radiation and hazardous chemicals, though the availability of information on this topic appears to be somewhat in question. Nearly 7 in 10 residents know someone in their county, other than themselves or family members, with cancer. This is typically prostate cancer, melanoma, and brain cancer among adult males, breast, ovarian, and brain cancer among adult females, and leukemia and brain cancer among boys and girls. Few respondents have or had cancer themselves, while nearly half have family members who have or had cancer. The 7 percent of respondents afflicted with cancer were diagnosed an average of 9 years ago, and 7 in 10 are in remission or cured. The vast majority of respondents rate their overall health as average or excellent, with allergies and high blood pressure the most common non-cancerous

health conditions reported. Residents are somewhat likely to eat wild game on a regular basis and grow part of their own produce. Nearly one-fourth are exposed to hazardous chemicals at home and/or work on a frequent basis and most are unlikely to use tobacco products. Respondents have lived in Bonneville county an average of 25 years.

Fremont County, Wyoming

The majority of residents of Fremont county, Wyoming, feel there is a link between personal health and the environment. They are quite concerned about exposure to radiation - man-made more so than natural - and even more concerned about exposure to hazardous chemicals. About 1 in 10 respondents feel their health has been harmed by radiation while nearly 2 in 10 feel hazardous chemicals have harmed their health. The majority of residents feel informed about the effects of exposure to these elements and it appears information is available on the topic. Nearly 8 in 10 residents know people in their county, other than themselves or their family members, that have cancer. This is generally prostate, lung and colon cancer among adult males, breast, ovarian, colon and lung cancer and melanoma among adult females, and leukemia and brain cancer among boys and girls. Almost 1 in 10 respondents have or had cancer themselves and nearly half have family members afflicted. Of the 9 percent with cancer, they had been diagnosed an average of 9 years ago, and 73 percent are in remission or cured. The vast majority of respondents rate their overall health as average or excellent; allergies and high blood pressure are the most common non-cancerous ailments reported. One-third of residents are likely to eat wild game on a regular basis and nearly half grow much of their own produce. They are likely to be exposed to hazardous chemicals on a frequent basis more so at work than at home and are unlikely to use tobacco products. Respondents have lived in Fremont county an average of 26 years.

Laramie County, Wyoming

Residents of Laramie county, Wyoming, feel quite strongly that there is a link between personal health and the environment. They are moderately concerned about exposure to natural radiation, but quite concerned about exposure to man-made radiation and hazardous chemicals. Most do not feel their health has been harmed by exposure to radiation, though one-third are uncertain. Nearly one-fourth feel hazardous chemicals have harmed their health. They consider themselves moderately informed about the effects of exposure to radiation and hazardous chemicals but feel available information on the topic is lacking. Seventy percent of respondents know someone in their county, other than themselves and family members, with cancer. This is typically prostate and lung cancer and melanoma among adult males, breast, ovarian, and lung cancer and melanoma among adult females, and leukemia among boys and girls. Nearly 1 in 10 respondents have or had cancer themselves and half have family members afflicted. Of the 8 percent with cancer, they had been diagnosed an average of 7 years ago and 84 percent are in remission or cured. The vast majority of respondents rate their overall health as average or excellent, with allergies and high blood pressure the most common non-cancerous conditions reported. Residents are somewhat likely to eat wild game on a regular basis but less than onefourth grow any of their own produce. About one-fourth are exposed to hazardous chemicals on a daily basis at home or work and it is unlikely for them to use tobacco products. Respondents have lived in Laramie county an average of 24 years.

Section 2 Introduction

The mission of Keep Yellowstone Nuclear Free (KYNF) is to elevate public awareness of the threat of hazardous and nuclear contamination from incineration and other air emission sources at the Idaho National Engineering and Environmental Laboratory (INEEL).

KYNF was originally formed to stop the construction of a radioactive and hazardous waste incinerator by INEEL in southeastern Idaho, which was proposed directly upwind from Jackson Hole, Wyoming, and the greater Yellowstone ecosystem. With successful completion of this charge, KYNF continues to monitor activities at INEEL and investigate what is currently being released into the air by the facility.

The Community Health Survey is one component of an investigation by KYNF into how activities at INEEL may be influencing the health and environment of communities in close proximity to and downwind of the facility.

2.1 Goals and Objectives

The goal of the Community Health Survey is to better understand the health needs and concerns among residents of Ada and Bonneville Counties, Idaho, and Fremont and Laramie Counties, Wyoming. To accomplish this goal, a mail survey was sent to a sample of residents in each of the counties included in the study. The Dillman method of survey administration was followed and is explained in detail in Section 3.

2.2 Intended Population

The intended population in each of the four study counties was all current residents age 18 or older. No residents of these counties were specifically excluded from the study.

Section 3 Study Methods

The Community Health Survey (Appendix A) was administered to a sample of residents in each of the four study counties of Ada and Bonneville Counties, Idaho, and Fremont and Laramie Counties, Wyoming, in order to meet the objectives of the study.

3.1 Survey Methods

Don A. Dillman first developed the Total Design Method³ of collecting meaningful information in 1978. After putting his method to the test for more than 20 years, Dillman developed the Tailored Design Method⁴, which articulates principles for tailoring the design of surveys to reduce error and nonresponse. The Tailored Design Method is the basis for the method of delivery employed in the Community Health Survey.

The Tailored Design Method dictates that a potential respondent is contacted numerous times in an effort to increase participation rates. Four contacts were utilized in the Community Health Survey and included the following:

CONTACT #1: A *pre-notice letter* was sent to respondents a few days prior to the questionnaire, explaining the purpose of the study, how they were chosen to participate, and making them aware of the survey due to arrive in the mail sometime during the few days that follow.

CONTACT #2: A *questionnaire* was mailed to respondents a few days after the prenotice letter and included a cover letter, numbered survey, consent form, and postagepaid return envelope. Questionnaires were numbered with unique identification numbers to enable investigators to track which recipients had returned completed surveys and which had not.

CONTACT #3: A *thank you/reminder post card* was sent one week after the questionnaire. It expressed thanks for responding (if the survey had been completed) and reminded respondents to complete and return the questionnaire if they hadn't already done so.

CONTACT #4: A *replacement questionnaire* was mailed two weeks after the postcard to respondents who had not yet returned a completed questionnaire. This mailing included a cover letter, numbered survey, consent form, and postage-paid return envelope.

Mailing lists of roughly 1,500 resident addresses for each of the four study counties were purchased from a national consumer data firm and represented the intended sample. These lists were generated by randomly selecting 1,500 resident households. Recipients were asked to allow the household member age 18 or older with the most recent past birthday to complete the questionnaire in order to provide for random selection of the respondent.

³ Dillman, Don A., Mail and Telephone Surveys, The Total Design Method, 1978.

⁴ Dillman, Don A., Mail and Internet Surveys, The Tailored Design Method, 2000.

3.2 Response Rate

A 14.6 percent response rate was realized in Ada County, Idaho, and 17.5 percent was reached in Bonneville County, Idaho. A 16.7 percent response rate was realized in Fremont County, Wyoming, and 16.6 percent was reached in Laramie County, Wyoming. Response rates and confidence are presented below for each county.

	Response and Confidence					
	Ada, ID	Ada, ID Bonneville, ID Fremont, WY Laramie, V				
Response Rate	14.6%	17.5%	16.7%	16.6%		
Confidence*	95%, +/- 6.6%	95%, +/- 6.0%	95%, +/- 6.1%	95%, +/- 6.2%		
Completed Surveys	219	263	250	249		
Population ⁵	300,904	82,552	35,804	81,607		

*Meaning we are 95% confident that results presented are within the reported threshold. For example, a confidence interval of 95% +/-5% means that if 38% of sample respondents said they are very concerned about natural radiation, we are 95% certain that the actual percentage of people in the population of the county that are very concerned about natural radiation is between 43% and 32%.

3.3 Data Weighting

Data weights are used to adjust the sample of study participants to reflect the population under examination and act as a conversion factor applied to all pieces of data collected. For example, information stemming from a group of participants that includes 75% retired people and 25% working people will likely not express the true sentiments of a population that is only 15% retired. Therefore, all responses given in the survey are multiplied by the data weights so that resulting responses will reflect the population being examined.

While participants for the Community Health Survey were randomly selected, the cross-section of individuals that completed the survey differed somewhat from the overall population of the county, which is typical in any type of survey. For this reason, the data were weighted to reflect characteristics matching that of the county's population⁵ in terms of gender and age. Responses are multiplied by the combined weight so that the data will reflect the population of the county in terms of age and gender. All figures reported represent weighted data.

⁵ Population information from the U.S. Census Bureau, Census 2000.

			Data W	Veights	
		Ada, ID	Bonneville, ID	Fremont, WY	Laramie, WY
Gender	Male	1.91	1.28	1.26	1.19
Ger	Female	0.68	0.82	0.83	0.86
	18-30 years	1.03	1.54	1.92	3.08
	31-45 years	1.37	1.34	1.70	1.53
Age	46-60 years	0.79	0.84	0.95	0.93
	61-75 years	0.74	0.68	0.66	0.47
	76+ years	0.89	0.54	0.39	0.42
	Male, 18-30 years	1.97	1.97	2.42	3.67
р	Male, 31-45 years	2.62	1.72	2.14	1.83
ine	Male, 46-60 years	1.50	1.08	1.20	1.11
dmo	Male, 61-75 years	1.42	0.87	0.84	0.56
erCo	Male, 76+ years	1.70	0.70	0.49	0.50
ende	Female, 18-30 years	0.70	1.26	1.60	2.65
Age and Gender Combined	Female, 31-45 years	0.93	1.10	1.41	1.32
e an	Female, 46-60 years	0.53	0.69	0.79	0.80
Ag	Female, 61-75 years	0.50	0.56	0.55	0.40
	Female, 76+ years	0.60	0.44	0.32	0.36

3.4 Pre-test

The survey instrument and methods were pre-tested in a mail survey conducted in the counties of Teton, Wyoming, and Teton, Idaho, prior to the four study counties. Slight modifications were made to the survey instrument following the pre-test to ensure accuracy and inclusiveness of information gathered.

Section 4 Results & Discussion

The following section presents results and discussion of figures from the Community Health Survey in Ada and Bonneville Counties, Idaho, and Fremont and Laramie Counties, Wyoming. As noted in Section 3, all data reflects the weighted data set. Percentages reported are rounded to the nearest whole percentage point; total percentages may not equal 100 percent due to rounding.

4.1 Health and the Environment

The vast majority of residents of the four study counties feel there is a link between the environment and their personal health. Residents of Bonneville county are the most unsure, while residents of Laramie county are the most convinced.

	Do you feel there is a link between personal health and the environment?						
	Ada,	Bonneville,	Fremont,	Laramie,			
	ID ID WY WY						
Yes	89%	77%	83%	89%			
No	4%	11% 11% 5%					
Not sure	7% 12% 6% 6%						
n-value	211	250	239	238			

4.1.1 Concerns of Exposure

Exposure to natural radiation appears to be of concern to the majority of respondents in Ada, Fremont, and Laramie counties with more than half of respondents in these areas indicating they are either somewhat or very concerned. Residents of Bonneville county are the least concerned about exposure to natural radiation of the four respondent groups.

	To what extent are you concerned about your exposure to natural radiation?				
	Ada,	Bonneville,	Fremont,	Laramie,	
	ID ID WY WY				
Very concerned	15%	12%	17%	17%	
Somewhat concerned	46%	33%	41%	38%	
Unconcerned	33%	47%	37%	38%	
Don't know	6%	8%	6%	7%	
n-value	210	248	240	235	

Exposure to man-made radiation appears to be of concern to the majority of respondents in all study counties with nearly three-fourths of respondents in all areas indicating they are either somewhat or very concerned.

	To what extent are you concerned about your exposure to man-made radiation?					
	Ada,	Bonneville,	Fremont,	Laramie,		
	ID ID WY WY					
Very concerned	42%	26%	37%	39%		
Somewhat concerned	38%	42%	35%	39%		
Unconcerned	17%	30%	25%	20%		
Don't know	4%	3%	3%	2%		
n-value	210	252	238	236		

Exposure to hazardous chemicals is of higher concern to respondents than either natural or man-made radiation. More than 75 percent of respondents in all four study counties indicated they are somewhat or very concerned about exposure to hazardous chemicals.

	To what extent are you concerned about your exposure to hazardous chemicals?						
	Ada,	Ada, Bonneville, Fremont, Laramie,					
	ID ID WY WY						
Very concerned	49%	37%	43%	47%			
Somewhat concerned	37%	41%	35%	38%			
Unconcerned	11%	20%	20%	14%			
Don't know	3%	3%	3%	1%			
n-value	213	251	239	238			

4.1.2 Perceptions of Harm

While a relatively low portion of residents feel their health has been harmed by exposure to natural radiation, a fairly large portion of residents are not certain. High levels of concern regarding exposure to natural radiation, as reported above, may be fueled by the fact that many residents are uncertain whether their health has been harmed due to radiation exposure, especially in Ada, Fremont, and Laramie counties.

	Do you feel your health has been harmed by exposure to natural radiation?							
	Ada,	Bonneville,	Fremont,	Laramie,				
	ID	ID ID WY WY						
Yes	8%	7%	9%	5%				
No	65% 71% 66% 65%							
Not certain	27% 22% 25% 30%							
n-value	213	251	237	234				

More county residents feel their health has been harmed by man-made radiation, or they are uncertain whether it has been or not, when compared to natural radiation. Again, levels of concern as reported previously may be linked to the perception of harm or uncertainty of its occurrence related to man-made radiation.

	Do you feel your health has been harmed by exposure to man-made radiation?						
	Ada,	Bonneville,	Fremont,	Laramie,			
	ID ID WY WY						
Yes	11%	9%	11%	12%			
No	58% 65% 64% 56%						
Not certain	31% 26% 25% 32%						
n-value	213	254	236	236			

When compared with natural or man-made radiation, there is a greater perception of harm due to exposure to hazardous chemicals among county residents. High levels of concern, as reported previously, may correspond to the perception of harm or uncertainty of its occurrence related to hazardous chemicals.

	Do you feel your health has been harmed exposure to hazardous chemicals?							
	Ada,	Bonneville,	Fremont,	Laramie,				
	ID	ID ID WY WY						
Yes	26%	13%	17%	23%				
No	46%	60%	60%	47%				
Not certain	27% 27% 23% 30%							
n-value	214	254	235	237				

4.1.3 Perceptions of Being Informed

The majority of residents in the four study counties feel either somewhat or very informed about the effects of exposure to natural radiation. However, nearly three in ten in any given county - especially Laramie, WY - feel uninformed.

	To what extent do you feel informed about the effects of exposure to natural radiation?					
	Ada, ID					
Very informed	17%	24%	19%	16%		
Somewhat informed	52%	39%	49%	43%		
Uninformed	28% 29% 28%					
Don't know	4%	7%	4%	6%		
n-value	212	252	238	240		

Residents feel slightly more informed about the effects of exposure to man-made radiation as compared to natural radiation, but Laramie county residents continue to exhibit the highest percentage of uninformed residents or those that just don't know.

	To what extent do you feel informed about the effects of exposure to man-made radiation?					
	Ada,	Ada, Bonneville, Fremont, Laramie,				
	ID ID WY WY					
Very informed	16%	29%	21%	15%		
Somewhat informed	54%	41%	44%	47%		
Uninformed	28%	26%	33%	33%		
Don't know	2%	5%	2%	5%		
n-value	212	252	237	238		

Residents feel slightly more informed about the effects of exposure to hazardous chemicals than either natural or man-made radiation. Again, Laramie county residents feel the least informed of all four counties, but to a lesser degree than in regards to radiation.

	To what extent do you feel informed about the effects of exposure to hazardous chemicals?					
	Ada, Bonneville, Fremont, Laramie,					
	ID ID WY WY					
Very informed	22%	22%	23%	20%		
Somewhat informed	50%	49%	48%	50%		
Uninformed	25%	23%	27%	25%		
Don't know	3%	5%	3%	5%		
n-value	215	253	238	238		

4.1.4 Availability of Information

The largest portion of residents feel there is an adequate amount of information available in Ada, Bonneville, and Fremont counties, though residents of Laramie county feel the availability is lacking. Fremont county appears to be doing a somewhat more adequate job of making information about natural radiation available to the public, with the smallest percentage of residents reporting they are uncertain about information availability and the largest percentage reporting an adequate amount.

	Please indicate your feelings regarding the availability of information about natural radiation.					
	Ada, Bonneville, Fremont, Laramie,					
	ID ID WY					
Too much	1%	1%	5%	1%		
Adequate amount	41%	43%	44%	34%		
Inadequate amount	41%	36%	38%	44%		
Not certain	17%	20%	14%	21%		
n-value	210	252	238	239		

With the exception of Bonneville county, residents feel there is less information available about man-made radiation. This is noticeably true in Laramie and Ada counties. Bonneville appears to have information regarding man-made radiation available at a magnitude similar to that of natural radiation.

	Please indicate your feelings regarding the availability of information about man-made radiation.					
	Ada, Bonneville, Fremont, Laramie,					
	ID ID WY V					
Too much	3%	5%	5%	2%		
Adequate amount	35%	41%	40%	29%		
Inadequate amount	46%	35%	41%	47%		
Not certain	15%	20%	14%	21%		
n-value	212	251	238	239		

Residents of Bonneville and Fremont counties feel there is adequate information available about hazardous chemicals. However, residents of Laramie and Ada counties do not share this sentiment, with the largest percentage of respondents in these two counties indicating an inadequate amount of information available.

	Please indicate your feelings regarding the availability of information about hazardous chemicals.						
	Ada, Bonneville, Fremont, Laramie,						
	ID ID WY WY						
Too much	4%	3%	6%	4%			
Adequate amount	35%	44%	44%	38%			
Inadequate amount	47%	36%	38%	41%			
Not certain	14%	18%	13%	17%			
n-value	209	248	235	238			

4.2 Acquaintance with Cancer

Respondents were asked if they know people in their county that have cancer now or had it in the past. They then indicated the type of cancer by the type of person(s) they know.

4.2.1 Cancer Occurrence Among County Residents not in Respondents Family

Most residents (64% or more) know at least one person in their county that currently has cancer or had it in the past. This includes people that live in the same county as the respondent and are outside of the respondent's immediate family.

	Do you know people in your county, other than you or members of your family, that have cancer now or had				
		it in th	e past?		
	Ada,	Bonneville,	Fremont,	Laramie,	
	ID	ID	WY	WY	
Yes	64%	68%	79%	70%	
No	36%	32%	21%	30%	
n-value	212	253	240	239	

The largest portion of residents in each county know an adult male with prostate cancer. Lung cancer and melanoma are the next most commonly known types. Residents of Fremont county are about twice as likely as those in the other study counties to know a man with colon cancer.

	least one or ha	spondents wh <u>adult male</u> in ad the followin	their county v g type of can	who has
	Ada,	Bonneville,	Fremont,	Laramie,
	ID	ID	WY	WY
Thyroid	3%	3%	1%	2%
Bladder	3%	5%	6%	3%
Breast	<1%	3%	1%	1%
Lung	17%	15%	25%	14%
Liver	6%	8%	15%	9%
Prostate	18%	33%	43%	29%
Esophageal	5%	2%	16%	4%
Leukemia	7%	10%	12%	6%
Colon	9%	14%	25%	12%
Brain	10%	17%	15%	7%
Melanoma	15%	18%	18%	13%
Pancreatic	3%	8%	5%	5%
Bone	4%	12%	11%	6%
Non-Hodgkins Lymphoma	5%	4%	6%	3%
Not certain of type of cancer	5%	7%	11%	5%
Other	2%	3%	4%	2%
Most common "Other" types	Melanoma	Kidney	Kidney	Lip
specified (see Appendix B	Testicular	Stomach	Basal cell	Testicular
for complete list)	Lymphoma	Lymphoma	Heart	Hodgkins
n-value	215	256	242	242

Thirty-five percent or more of residents in each county know an adult female with breast cancer, and 11 percent or more know a woman with ovarian cancer. As with adult males, lung cancer and melanoma are the next most prevalent types, and residents of Fremont county are more than twice as likely to know an adult female with colon cancer.

	Percent of respondents who indicated they know at				
	least one	adult female in	n their county	who has	
	or h	ad the followir	ng type of can	cer.	
	Ada,	Bonneville,	Fremont,	Laramie,	
	ID	ID	WY	WY	
Thyroid	7%	8%	7%	8%	
Bladder	3%	2%	4%	2%	
Breast	39%	38%	57%	35%	
Lung	10%	7%	13%	13%	
Liver	4%	5%	6%	6%	
Esophageal	2%	1%	3%	1%	
Leukemia	5%	5%	3%	5%	
Colon	6%	7%	14%	7%	
Brain	6%	9%	8%	5%	
Melanoma	10%	8%	17%	10%	
Pancreatic	4%	4%	6%	1%	
Bone	3%	5%	5%	6%	
Ovarian	11%	14%	19%	16%	
Uterine	6%	6%	10%	9%	
Non-Hodgkins Lymphoma	5%	5%	5%	2%	
Not certain of type of cancer	8%	8%	7%	4%	
Other	2%	2%	1%		
Most common "Other" types	Cervical	Cervical	Spinal		
specified (see Appendix B	Throat	Lymphoma	Kidney		
for complete list)	215	Stomach 256	Sinus	242	
n-value	210	230	242	242	

The majority of residents don't know boys in their county that have been stricken with cancer. However, leukemia is the most commonly known type among those that do. Residents of Fremont county are more than twice as likely as those in the other three counties to know boys with brain cancer.

	Percent of respondents who indicated they know at least one <u>boy (<18)</u> in their county who has or had the following type of cancer.			
	Ada,	Bonneville,	Fremont,	Laramie,
	ID	ID	WY	WY
Thyroid	<1%	<1%		
Bladder				
Breast				
Lung		1%		1%
Liver		1%		
Prostate				
Esophageal				1%
Leukemia	3%	5%	9%	3%
Colon		<1%		
Brain	1%	2%	5%	<1%
Melanoma		1%		
Pancreatic				
Bone	<1%	1%	1%	<1%
Non-Hodgkins Lymphoma	<1%	1%	1%	1%
Not certain of type of cancer		3%	5%	<1%
Other		1%	1%	
Most common "Other" types specified (see Appendix B for complete list)		Candida Benign tumors	Hodgkins	
n-value	215	256	242	242

As with boys, the majority of residents don't know girls in their county that have been diagnosed with cancer. Again, however, leukemia is the most commonly known type among those that do, and residents of Fremont county are at least four times more likely to know a girl with brain cancer than residents in Ada, Bonneville, or Laramie counties.

	Percent of respondents who indicated they know at least one <u>girl (<18)</u> in their county who has or had the following type of cancer.			
	Ada,	Bonneville,	Fremont,	Laramie,
	ID	ID	WY	WY
Thyroid		<1%		1%
Bladder				
Breast	<1%	1%		1%
Lung				
Liver		<1%		
Esophageal				
Leukemia	2%	8%	3%	2%
Colon	<1%	<1%	1%	
Brain	1%	3%	12%	2%
Melanoma	<1%	1%	1%	
Pancreatic				
Bone	<1%	1%		1%
Ovarian	<1%	2%		
Uterine		1%		
Non-Hodgkins Lymphoma	<1%	2%		1%
Not certain of type of cancer	<1%	3%	3%	1%
Other		1%		<1%
Most common "Other" types specified (see Appendix B for complete list)		Candida Basal cell		Neuro- blastoma
n-value	215	256	242	242

4.2.2 Cancer Among Respondents

Most respondents do not currently have cancer, nor have they had it in the past. For the five to seven percent of respondents that do, the types reported were quite vast and one type of cancer was not prevalent.

	Do you have cancer now or have you had it in the past (including Leukemia)?				
	Ada, ID	Bonneville, ID	Fremont, WY	Laramie, WY	
Yes	5%	7%	9%	8%	
No	95%	94%	91%	92%	
n-value	217	254	241	241	

	Type of cancer(s) respondents have now or had in the past.			
	Ada,	Bonneville,	Fremont,	Laramie,
	ID	ID	WY	WY
Thyroid	1%	<1%	<1%	<1%
Bladder	1%	1%	1%	
Breast	3%	1%	2%	2%
Lung	1%	1%		<1%
Liver				
Prostate	1%	1%	2%	1%
Esophageal	1%		<1%	<1%
Leukemia				
Colon	1%	1%	1%	1%
Brain	1%		1%	
Melanoma	1%	1%	1%	1%
Pancreatic			<1%	<1%
Bone				
Ovarian		1%		1%
Uterine	1%		1%	1%
Non-Hodgkins Lymphoma		<1%	<1%	
Not certain of type of cancer		1%		1%
Other:		2%	2%	1%
Most common "Other" types		Melanoma	Basal cell	Squamous
specified (see Appendix B		Cervical	Hodgkins	cell
for complete list)	910	Candida	Kidney	Kidney
n-value	219	256	242	242

Respondents that did or do have cancer were diagnosed, on average, from 5 to 10 years ago. The majority of those with cancer had a surgical treatment that may or may not have included an accompanying non-surgical regime. Non-surgical treatment programs generally lasted from one to three years.

	Mean number of years since respondent was diagnosed with cancer.					
	Ada, Bonneville, Fremont, Laramie,					
	ID	ID	WY	WY		
Years	5	9	10	7		
n-value	6	16	21	19		

	Percent of respondents by treatment of cancer.				
	Ada, Bonneville, Fremont, Laram				
	ID	ID	WY	WY	
Non-surgical	14%	47%	46%	43%	
Surgical	86%	53%	54%	57%	
n-value	7	16	21	20	

Note: Respondent could indicate both surgical and non-surgical if appropriate.

	Mean number of years respondent was				
	or has been in treatment (non-surgical) for cancer.				
	Ada,	Bonneville,	Fremont,	Laramie,	
	ID	ID	WY	WY	
Years	1	3	3	2	
n-value	4	12	11	10	

More than 7 in 10 respondents are currently in remission or have been cured of their cancer and have been for 4 to 11 years.

	Are you in remission or cured?					
	Ada,	Bonneville, Fremont, Laramie				
	ID	ID	WY	WY		
Yes	86%	70%	73%	84%		
No		22%	22%	7%		
Not	14%	8%	5%	9%		
specified		••••	•••	••••		
n-value	7	16	21	20		

	Mean number of years in remission or cured.				
	Ada, Bonneville, Fremont, Laramie,				
	ID	ID	WY	WY	
Years	4	8	11	7	
n-value	6	9	13	16	

4.2.3 Cancer Among Family Members

Slightly less than half of respondents in Ada, Bonneville, and Fremont counties have a family member that currently has cancer or had it in the past. Laramie respondents are split 50/50. Breast, lung, and prostate cancer are the most prevalent types among members of the respondent's family.

	Does anyone in your family have cancer now or have they had it in the past (including Leukemia)?				
	Ada,	Bonneville,	Fremont,	Laramie,	
	ID	ID	WY	WY	
Yes	47%	42%	44%	50%	
No	53%	59%	57%	50%	
n-value	216	252	241	242	

	Type of cancer(s) family member(s) have now or had in the past.				
	Ada,	Bonneville,	Fremont,	Laramie,	
	ID	ID	WY	WY	
Thyroid	2%	1%	1%	3%	
Bladder	2%	1%	2%	1%	
Breast	19%	11%	14%	15%	
Lung	12%	5%	10%	12%	
Liver	5%	3%	5%	3%	
Prostate	10%	11%	15%	8%	
Esophageal	1%	1%	1%	2%	
Leukemia	6%	2%	4%	7%	
Colon	8%	5%	8%	12%	
Brain	3%	2%	4%	1%	
Melanoma	10%	7%	7%	8%	
Pancreatic	3%	2%	2%	4%	
Bone	4%	2%	4%	3%	
Ovarian	6%	7%	8%	8%	
Uterine	2%	4%	4%	5%	
Non-Hodgkins Lymphoma	2%	2%	3%	2%	
Not certain of type of cancer	5%	4%	5%	5%	
Other:	6%	3%	2%	3%	
Most common "Other" types	Stomach	Myeloma	Cervical	Stomach	
specified (see Appendix B	Cervical	Spleen	Kidney	Testicular	
for complete list)	Prolymphocytic	Intestinal	Melanoma	Hodgkins	
n-value	219	256	242	242	

4.3 Health Status and Life Routines

Respondents were asked about their overall health and common ailments, as well as life routines related to the origin of meat and produce they consume.

4.3.1 Overall Health Rating

Ninety-one percent or more of respondents rate their current overall health as average or excellent. Residents of Ada county had the highest percentage reporting excellent health of the four study counties while residents of Laramie county had the smallest percentage reporting poor health among the counties.

	How would you rate your present overall health?				
	Ada,	Ada, Bonneville, Fremont,			
	ID	ID	WY	WY	
Excellent	45%	42%	40%	35%	
Average	48%	52%	52%	59%	
Poor	7%	6%	9%	5%	
n-value	213	253	241	239	

4.3.2 Chronic Non-Cancerous Ailments

The largest percentage of respondents are afflicted with allergies, followed by high blood pressure and asthma. Respondents from Ada county reported the least amount of chronic ailments of the four study areas while thyroid disease appears to affect nearly twice as many respondents in Fremont and Laramie counties as compared to Ada and Bonneville.

	Do you currently have any of the following chronic health conditions?				
	Ada,	Bonneville,	Fremont,	Laramie,	
	ID	ID	WY	WY	
Asthma	6%	8%	10%	12%	
Chronic Fatigue Syndrome	3%	4%	5%	5%	
Rheumatoid Arthritis	2%	5%	6%	6%	
Multiple Sclerosis			<1%	2%	
Thyroid Disease	4%	4%	7%	8%	
Diabetes	4%	7%	7%	6%	
High blood pressure	17%	16%	19%	19%	
Allergies	28%	32%	27%	32%	
Other	3%	6%	6%	2%	
Most common "Other" types specified (see Appendix B for complete list)	Fibro Myalgia Emphysema Depression	Insulin resistance Osteoporosis	Headaches Heart trouble Depression Bipolar disorder	Chronic bronchitis Lupis Marfan syndrome	
n-value	215	256	242	242	

Results & Discussion: Comparison of Results

Allergies, high blood pressure, asthma, and diabetes are quite common among respondent's family members in all four counties. Thyroid disease and rheumatoid arthritis are also somewhat common, though thyroid disease is much less likely to afflict family members of Bonneville county respondents than those of Ada, Fremont, and Laramie.

	Does any member of your family currently have any of the following chronic health conditions?			
	Ada,	Bonneville,	Fremont,	Laramie,
	ID	ID	WY	WY
Asthma	14%	21%	19%	17%
Chronic Fatigue Syndrome	5%	5%	5%	1%
Rheumatoid Arthritis	10%	10%	12%	9%
Multiple Sclerosis	4%	2%	4%	5%
Thyroid Disease	10%	6%	11%	12%
Diabetes	17%	19%	18%	14%
High blood pressure	28%	23%	33%	26%
Allergies	41%	42%	37%	40%
Other:	4%	4%	2%	1%
Most common "Other" types	Depression	Insulin	Kidney	Lupis
specified (see Appendix B	Osteoporosis	resistance	failure	Fibro myalgia
for complete list)	Arthritis/Osteo-	Addison's	Depression	Vascular
	arthritis	disease	Bipolar	disease
		Heart trouble	disorder	
n-value	215	256	242	242

Residents of Fremont county are two to four times as likely to eat wild game (not including fish) on a monthly or more frequent basis when compared to residents of Ada, Bonneville, and Laramie counties. Less than 1 in 20 respondents eat wild game monthly or weekly in Fremont and Laramie counties, while less than 1 in 10 respondents do in Ada county.

	How often do you eat wild game, not including fish?				
	Ada,	Ada, Bonneville, Fremont,		Laramie,	
	ID	ID	WY	WY	
Weekly	2%	8 %	20%	8%	
Monthly	6%	9%	12%	8%	
Occasionally	45%	50%	47%	45%	
Never	47%	34%	22%	40%	
n-value	214	251	241	239	

Nearly half of Fremont county residents grow more than half of the produce they eat annually. This is not true for Ada, Bonneville, and Laramie counties, however, where only 2, 10 and 1 percent, respectively, grow more than half. Nearly two-thirds of respondents in Ada county and more than three-fourths in Laramie county grow none of their own produce.

	How much of the produce that you eat annually do you grow yourself?				
	Ada,	Bonneville,	Fremont,	Laramie,	
	ID ID WY V				
All of it		1%	4%		
More than half	2%	9%	39%	1%	
Less than half	36%	60%	56%	23%	
None	63%	31%	1%	76%	
n-value	213	252	241	240	

4.4 Exposure to Potentially Harmful Substances

Respondents were asked about their exposure to potentially harmful substances at home and work and their typical tobacco use.

4.4.1 Use of Hazardous Chemicals

Hazardous chemical use at home is generally limited to a few times per month or a few times per year. However, nearly one in four residents of Bonneville and Laramie counties reported using hazardous chemicals at home on a daily basis.

	How often do you use hazardous chemicals at home?				
	Ada,	Bonneville,	Fremont,	Laramie,	
	ID	ID	WY	WY	
Never	3%	2%	4%	3%	
A few times per year	26%	21%	29%	24%	
A few times per month	35%	28%	24%	31%	
A few times per week	19%	25%	25%	18%	
Daily	14%	24%	17%	23%	
Don't know	1%	1%	2%	2%	
n-value	214	253	239	236	

The largest percentage of respondents from Ada and Bonneville counties reported never using hazardous chemicals at work, though one in four or five typically use them on the job daily. About one in three residents of Fremont and Laramie counties use hazardous chemicals at work on a daily basis, while one in four or five never do.

	How often d	lo you use haz	ardous chemic	cals at work?
	Ada,	Bonneville,	Fremont,	Laramie,
	ID	ID	WY	WY
Never	31%	25%	21%	27%
A few times per year	17%	12%	19%	15%
A few times per month	16%	15%	13%	13%
A few times per week	12%	20%	15%	14%
Daily	19%	23%	31%	29%
Don't know	4%	4%	1%	3%
n-value	185	223	203	212

4.4.2 Tobacco Use

More than 70 percent of respondents do not use tobacco products. Those that do, however, typically use cigarettes, cigars, or pipes. Tobacco users in Bonneville, Fremont, and Laramie counties are most likely to be long-time users, reporting a habit spanning more than 15 years. Users in Ada county are nearly evenly split between 5-15 years using and more than 15 years.

	Which of the	e following tob	acco products	do you use?
	Ada,	Bonneville,	Fremont,	Laramie,
	ID	ID	WY	WY
Cigarettes/	17%	10%	15%	24%
cigars/pipe				
Smokeless	2%	3%	7%	5%
tobacco				
Both kinds		<1%	1%	<1%
Neither	81%	87%	77%	71%
n-value	212	253	237	238

		If you use toba how long have		
	Ada,	Bonneville,	Fremont,	Laramie,
	ID	ID	WY	WY
Less than 1		5%	5%	
year				
1-5 years	9%	4%	5%	14%
5-10 years	29%	17%	18%	21%
10-15 years	18%	20%	19%	14%
More than	45%	54%	53%	51%
15 years				
n-value	41	33	54	67

4.5 Demographics

Respondents were most likely to be Caucasian females between the ages of 31 and 45 years. Length of residency in the county was 24 to 26 years, on average, with the exception of Ada county, whose respondents reported an average of 16 years.

	What is your gender?				
	Ada,	Bonneville,	Fremont,	Laramie,	
	ID	ID	WY	WY	
Male	49%	47%	47%	45%	
Female	51%	53%	54%	55%	
n-value	215	256	242	242	

	What c	ategory descril	bes your age ii	ı years?
	Ada,	Bonneville,	Fremont,	Laramie,
	ID	ID	WY	WY
18-30 years	22%	22%	18%	21%
31-45 years	36%	33%	30%	34%
46-60 years	25%	24%	27%	24%
61-75 years	12%	14%	18%	15%
76 years or more	6%	7%	7%	6%
n-value	215	256	242	242

	Length of residency in County.				
	Ada,	Bonneville,	Fremont,	Laramie,	
	ID	ID	WY	WY	
Mean years	16	25	26	24	
n-value	214	254	239	241	

	What ethnie	c group do you	ı feel best repr	esents you?
	Ada,	Bonneville,	Fremont,	Laramie,
	ID	ID	WY	WY
Asian/Pacific Islander	2%	1%	1%	2%
Native American/	3%	2%	4%	2%
American Indian				
White/Caucasian	87 %	95%	93%	88%
Hispanic descent	7%	2%	2%	6%
Black/African-American	1%			1%
Other	2%	1%	<1%	<1%
n-value	215	250	241	234

4.6 Comparison of Study Counties

The following points are highlights of comparison between the four study counties.

- Bonneville county residents are less certain that there is a link between the environment and personal health.
- Bonneville county residents are less concerned about exposure to natural and man-made radiation.
- Laramie county residents feel less informed about the effects of exposure to radiation and hazardous chemicals, which is likely a result of the perception of too little information available on the topic.
- Fremont county residents are much more likely to know adults with colon cancer, boys with leukemia and brain cancer, and girls with brain cancer.
- Bonneville county residents are more likely to know girls with leukemia.
- Cancer among respondents was less common in Ada county respondents, but also more recently diagnosed.
- Thyroid disease appears to be more common among Laramie and Fremont county residents.
- Fremont county residents are much more likely to eat wild game on a regular basis and grow most of their own produce.
- Bonneville and Laramie county residents are more likely to be exposed to hazardous chemicals at home on a daily basis.
- Fremont and Laramie county residents are more likely to be exposed to hazardous chemicals at work on a daily basis.
- Laramie county residents are somewhat more likely to use tobacco products.
- Ada county residents have lived in the county an average of 8-10 years less than residents of the other three study counties.
- Ada and Laramie counties appear to have a larger Hispanic population than Bonneville and Fremont counties.

Appendix A: Survey Instrument and Consent Form

The first group of questions relates to your opinions of health issues in your own environment and your awareness of cancer occurrence in your county. Please answer each question to the best of your knowledge.

1) Do you feel there is a link between personal health and the environment? ____Yes ____No ____ Not sure 2) To what extent are you concerned about your exposure to Verv Somewhat Don't Concerned Concerned Unconcerned Know ...natural radiation? ...man-made radiation? ...hazardous chemicals? 3) Do you feel your health has been harmed by exposure to Yes No Not certain ...natural radiation? ...man-made radiation? ...hazardous chemicals? 4) To what extent do you feel informed about the *effects* of exposure to Verv Somewhat Don't Informed Informed Uninformed Know ...natural radiation? ...man-made radiation? ...hazardous chemicals? 5) Please indicate your feelings regarding the availability of information about Too Adequate Not Inadequate Much Amount Amount Certain ...natural radiation? ...man-made radiation? ...hazardous chemicals?

6) How often do you use hazardous chemicals (including gas, oil, pesticides, herbicides, and cleaning agents with warning labels)

		A few times	A few times	A few times		Don't
	Never	per year	per month	per week	Daily	know
at home?			-			
at work?						

 7) Do you know people in your county - *other than you or members of your family* - that have cancer now or had it in the *past*? Yes
No (*Skip to question #8.*)

7a) If yes, please indicate by check	mark the type of	cancer each type	of person has o	or had.
	Adult	Adult	Boy	Girl
Check all that apply.	Male	Female	(<18)	(<18)
a) Thyroid				
b) Bladder				
c) Breast				
d) Lung				
e) Liver				
f) Prostate		<u>n/a</u>		<u>n/a</u>
g) Esophogeal				
h) Leukemia				
i) Colon				
j) Brain				
k) Melanoma				
1) Pancreatic				
m) Bone				
n) Ovarian	<u>n/a</u>		<u>n/a</u>	
o) Uterine	<u>n/a</u>		<u>n/a</u>	
p) Non-Hodgkins Lymphoma				
q) Other (specify)				
r) Not certain of type of cancer				

The next group of questions addresses your past and present health condition, as well as that of your immediate family. Please answer each question to the best of your knowledge.

- 8) How would you rate your present overall health? (check one) ____ Excellent ____ Average ____ Poor
- 9) Do you or any members of your family currently have any of the following chronic health conditions? **Family**

		гашну
Check all that apply.	Me	Member
a) Asthma		
b) Chronic Fatigue Syndrome		
c) Rheumatoid Arthritis		
d) Multiple Sclerosis		
e) Thyroid Disease		
f) Diabetes		
g) High blood pressure		
h) Allergies		
i) Other (specify)		

10) Do you have cancer now or have you had it in the past (including Leukemia)? _____Yes ____No (*Skip to question #11.*)

10a) How long has it been since you were diagnosed with cancer?	years
10b) How long were you or have you been in treatment for your cancer?	years
	surgical removal
10c) Are you in remission or cured and for how long? Yes, for	yearsNo

11) Does anyone in your family have cancer now or have they had it in the past (including Leukemia)?

12) If you answered yes to either 10 or 11 above, please indicate the type of cancer by placing a check mark on the appropriate blanks.

Family Family Check all that apply. Me Member Check all that apply. Me Member a) Thyroid	
a) Thyroid	
b) Bladder l) Pancreatic c) Breast m) Bone d) Lung n) Ovarian	
c) Breast m) Bone d) Lung n) Ovarian	
d) Lung n) Ovarian	
f) Prostate p) Non-Hodgkins Lymphoma	,
g) Esophogeal q) Other (specify type below)	
h) Leukemia	
i) Colon r) Not certain of type of cancer	i) Colon
j) Brain	j) Brain
13) Which of the following tobacco products do you use?	13) Which of the following tob
Cigarettes/cigars/pipe Smokeless tobacco Both Neither (Skip to question #1	Cigarettes/cigars/pip
13a) If you use either or both of these products, how long have you done so?	
Less than 1 year 1-5 years5-10 years 10-15 yearsMore than 15 years	Less than 1 year
14) How often do you eat wild game, not including fish?	
WeeklyMonthlyOccasionallyNever	Weekly
15) How much of the meduce that you get annually do you grow yourself?	15) How much of the meduce (
15) How much of the produce that you eat annually do you grow yourself? All of itMore than halfLess than halfNone	· •
Finally, we would like to know a little bit about you.	Finally, we would like to know a li
Finany, we would like to know a little bit about you.	r many, we would like to know a li
16) What is your gender? Male Female	16) What is your gender?
	10) What is your gender.
17) What category describes your age in years? <u>18-30</u> <u>31-45</u> <u>46-60</u> <u>61-75</u> <u>76 or mo</u>	17) What category describes yo
, , , , , , , , , , , , , , , , , , ,	,
18) How long have you been a resident of your county? years	18) How long have you been a
19) Which ethnic group do you feel <i>best</i> represents you? (<i>please check only one</i>)	19) Which ethnic group do you
Asian/Pacific IslanderWhite/Caucasian `Black/African-American	
Native American/American Indian Hispanic descent Other	Native American/A

Consent Form

Pinnacle Research and Consulting, an independent survey firm, has requested your participation in a research study for Keep Yellowstone Nuclear Free (KYNF), a non-profit organization. Please note that this is not a county or state health department study. To ensure you understand the study and your rights of confidentiality and choice to participate, please read the following points carefully.

- The purpose of this research is to better understand public health issues and to describe the factors that may influence public health. You will be describing your **physical health** and your **thoughts** about issues that concern public health. Through this information, KYNF will better understand how community members feel about their health and exposure to environmental chemicals.
- Your participation in this survey is completely voluntary. **Risks** to you in completing this survey should be minimal, although it will involve reviewing aspects of your life. If you experience unusual anxiety or distress, you can choose not to complete this survey. You may withdraw from the study at any time without penalty. If you choose not to participate, please indicate your choice by mailing the blank postage-paid survey to the research team in the envelope provided.
- Individual surveys will be kept completely **confidential**. <u>None of your answers will be traceable back to you</u>. The summary results of the research study may be published, but your name or identity will not be known and your responses will remain confidential.
- You may obtain an **anonymous** copy of the summary results by web at <u>www.yellowstonenuclearfree/healthrpt.htm</u>. As a participant, you will get the first opportunity to review the final summary report at this web address. A password will be required to do so; enter **omghi2u** when prompted. You may also request a copy of the study by contacting the phone number listed at the bottom of the page.

Questions concerning the survey or your rights as a study participant should be directed to Kim Bergstrom of Pinnacle Research and Consulting at (866) 777-1588 or <u>pinnaclersch@onewest.net</u>. Please keep a copy of this consent document for your records. By completing and returning the Community Health Survey, you indicate that you understand the above points and provide your consent to participate in the study. Thank you very much for your time and consideration.

Por favor llame sin-costo al numero de abajo si desearia obtener la version en espanol de la Forma para Consentimiento. Todas sus respuestas seran mantenidas en confidencia.

Pinnacle Research & Consulting

PO Box 554, Stevensville, MT 59870

Toll-free Tel. (866) 777-1588

pinnaclersch@onewest.net

Appendix B: Responses to Open-Ended Questions

Following is a listing of responses to open-ended questions, which required the respondent to specify some element of detail. They are presented in alphabetical order and are verbatim.

Other types of	Adno carcoma	Hodgkins	Sinus
cancer known to	Basal cell	Kidney	Spinal
respondent among	Benign tumors	Lip	Squamous cell
county residents.	Candida	Lymphoma	Stomach
	Cervical	Melanoma/skin	Testicular
	Heart	Neuroblastoma	Throat
Other chronic	Addison's	Fibro myalgia	Marfan syndrome
health conditions	Agent Orange	Gardners	Menieres
respondent or	Anemia	Grave's disease	Migraines
family members	Arthritis/osteoarthritis	Headaches	Mitral valve prolapse
have.	Behcets disease	Heart attack/disease	Osteoporosis
	Bipolar disorder	Hemorrhoids	Parasite
	Bronchitis	Hepatitis C	Parkinson's
	Candida	High cholesterol	PTSD
	Chronic regional pain dis.	Hypoglycemia	Sinusitis
	COPD	Insulin resistance	Stomach ulcer
	Depression	Interstitial cystitis	Triglycerites
	Dermatitis	Kidney failure	Vascular disease
	Emphysema	Lupis	Vasculite
Other types of	Basal cell	Intestinal	Testicular
cancer respondents	Candida	Kidney	Spleen
or family members	Carcinoid tumor	Melanoma/skin	Squamous cell
have.	Cervical	Myeloma/multiple myeloma	Stomach
	Hodgkins	Prolymphocitic	Renal