APPENDIX E

COMMUNITY COHESION SURVEY

PIKE COUNTY KENTUCKY

LEVISA FORK

COMMUNITY COHESION AND SOCIAL IMPACT STUDY

JANUARY 2004

FINAL REPORT

COMMUNITY COHESION
and
SOCIAL IMPACT STUDY

FINAL REPORT

PIKE COUNTY, KENTUCKY

LEVISA FORK

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PREPARED FOR:

U.S. ARMY CORPS OF ENGINEERS, HUNTINGTON DISTRICT

PREPARED BY:

PARSONS BRINCKERHOFF

2333 ALUMNI PARK PLAZA, SUITE 330

LEXINGTON, KENTUCKY 40517

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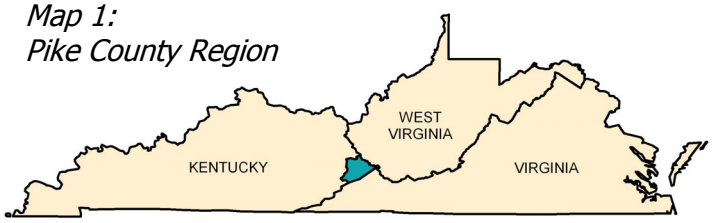
PART 1: EXISTING COMMUNITY COHESION

Introduction and Methodology

INTRODUCTION

Eastern Kentucky, southern West Virginia, and southwest Virginia experienced major flooding in 1977 due to heavy rain and rising waters of the Big Sandy River and its tributaries. Located in the eastern most tip of Kentucky, Pike County was impacted by severe flooding from the Levisa Fork and Russell Fork Rivers. The 1977 flood caused extensive damage to both residential and commercial structures along these two rivers and its tributaries within the county.

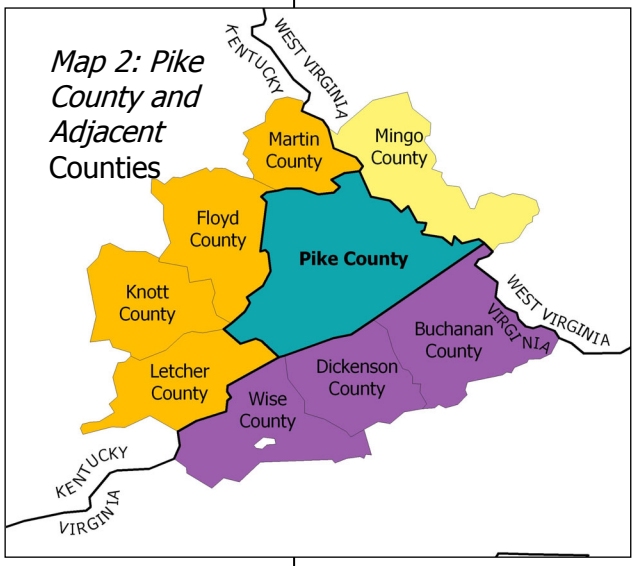
Map 1: Pike County Region



Following flooding in 1977, Congress authorized the U.S. Army Corps of Engineers (Corps) to provide flood protection to impacted areas, including areas along the Levisa Fork, Russell Fork, and tributaries in Pike County. The Corps recently began preparing a study to: 1) determine the extent of flooding in the Levisa Fork Basin, and 2) identify potential measures to minimize future flood damage. The Corps has identified several alternatives to protect against future flood damage, which include both structural and nonstructural flood protection methods.

The Corps contracted with Parsons Brinckerhoff, Inc. (Contractor) to conduct a survey of structures and prepare a community cohesion and social impact analysis of the identified flood protection alternatives in Pike County. The project area includes structures along all tributaries of the Levisa Fork and Russell Fork Rivers in Pike County; however, surveys were primarily conducted along the Levisa Fork and Russell Fork Rivers and not along the many tributaries. Residential and nonresidential surveys were completed in Pikeville, Elkhorn City, Coal Run, Shelbiana, and Millard. Additional residential surveys were completed in the communities of Beaver Bottom, Draffin, Garden Village, Justiceville, Mossy Bottom, and Regina.

Map 2: Pike County and Adjacent Counties



Separate surveys were conducted for eligible structures in the residential and nonresidential areas. In addition, separate surveys were conducted for areas affected by structural and nonstructural alternative measures. As part of the community cohesion and social impact analysis, the Contractor also completed a socio-economic analysis, which is included as Appendix A to this report. The survey results and conclusions are presented separately for each type of survey and for the North Pikeville and

Coal Run areas to allow for direct analysis of each area. The structural alternative survey results and conclusions are presented first, followed by the nonstructural alternative survey results and conclusions. Responses to questions about study knowledge and future public involvement, and special community issues and concerns are presented in separate sections at the end of Part 1 of this report.

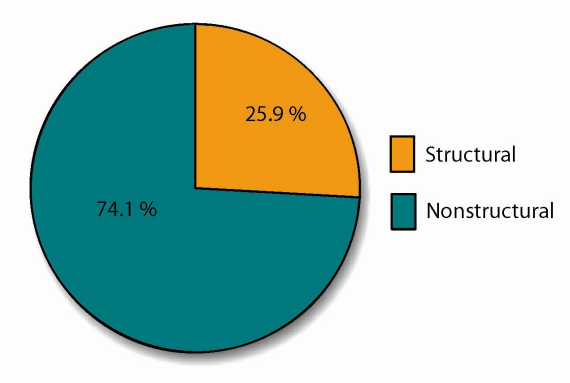
METHODOLOGY

Survey Methodology

Approximately 2,000 structures in the Levisa Fork Basin of Pike County are eligible for the Section 202 Program based on their first floor elevation compared to the 1977 flood elevation. The Corps identified 380 structures to be surveyed by the Contractor on a variety of topics to assess program participation rates and measure community cohesion. More specifically, the surveys aimed to:

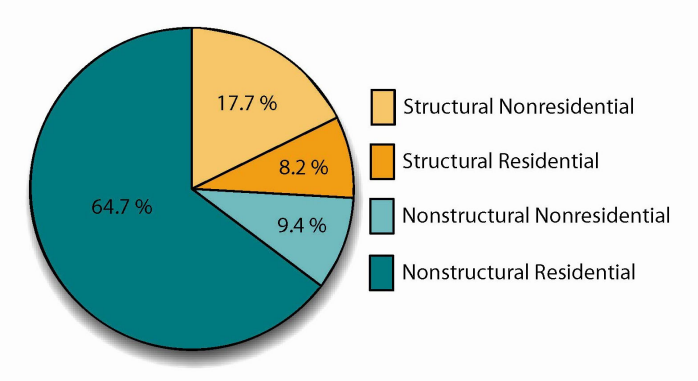
1) document structure and resident or owner/operator characteristics;
2) evaluate feelings and concerns about flooding;
3) evaluate feelings and concerns about the community;
4) determine relocation preferences;
5) determine willingness to participate in a voluntary, nonstructural flood protection program;
6) determine feelings about acquisition for the greater good;
7) evaluate community flood protection preferences; and
8) identify current level of public knowledge and future communication preferences.

Separate surveys were conducted for four groups of eligible structures: 1) Structural Alternative, Nonresidential Structure; 2) Structural Alternative, Residential Structure; 3) Nonstructural Alternative, Nonresidential Structure; and 4) Nonstructural Alternative, Residential Structure. All four survey instruments are presented in Appendix B of this report.



The Contractor visited occupant/owners of all 380 structures identified by the Corps in an attempt to complete the questionnaire through a personal interview. Of the original 380 structures, 299 were residential structures and 81 were nonresidential structures such as commercial buildings, churches or mixed use buildings with both commercial and residential uses. A minimum of one attempt was made at each of the structures to complete a personal interview. If no contact was made, a survey form with a pre-addressed and stamped envelope was left for the occupant/owner to complete and mail back to the Contractor. Instances where the structure was either raised or vacant were noted in the field. Additionally, circumstances that prevented direct contact with an occupant/owner were also recorded. Such circumstances included: no occupant for structure (shed, restroom facility, or utility company structure); dog preventing entrance to property or leaving survey; gate preventing entrance to property or

leaving survey; or unable to locate structure in the field. A total of 163 structures were surveyed (42.9 percent of original sample), and 170 questionnaires were completed. Three nonresidential structures were occupied by more than one tenant, therefore, the Contractor attempted to complete a personal interview with all occupants. A total of ten surveys were completed among the three multi-tenant structures. Appendix C presents a list of each structure number surveyed and documents whether or not a questionnaire was completed for that structure and provides a reason for those that were not completed. Responses to the surveys were entered into a database management program, Microsoft Access. This data is included on a CD-ROM accompanying this report.



Questionnaire responses, coupled with the socio-economic data, were analyzed to determine willingness of participation in the program, general community cohesion, and anticipated social impacts of nonstructural and structure alternatives.

Existing Community Cohesion Methodology

The measurement of community cohesion is relatively difficult to ascertain and not very precise because it is such an intangible concept. However, several factors which are measurable lend themselves to the evaluation of a community's cohesiveness. These factors are measurable based upon survey results or socio-economic data. For residential areas, these factors are:

1) Term of occupancy of structure;
2) Frequency of visits with friends and family;
3) Number of families with children;
4) Rate of owner-occupancy;
5) Employment status;
6) Relocation preferences; and
7) Special characteristics of the neighborhood.

Among nonresidential areas, these factors are:

1) Term of occupancy of structure;
2) Rate of owner-occupancy;
3) Relocation preferences; and
4) Special characteristics of the neighborhood.

Overall existing community cohesion is discussed at the end of the nonstructural survey section and again following the Coal Run and North Pikeville survey results. Overall existing community cohesion is not discussed for all structural surveys because, logically, community

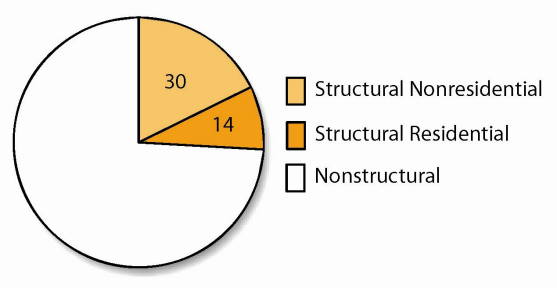
cohesion of Coal Run and North Pikeville, where two separate structural alternatives are possible, should be analyzed individually.

Community cohesion and social impacts of the proposed alternatives will be evaluated in Part 2 of this report.

Structural Area Survey Results and Community Cohesion

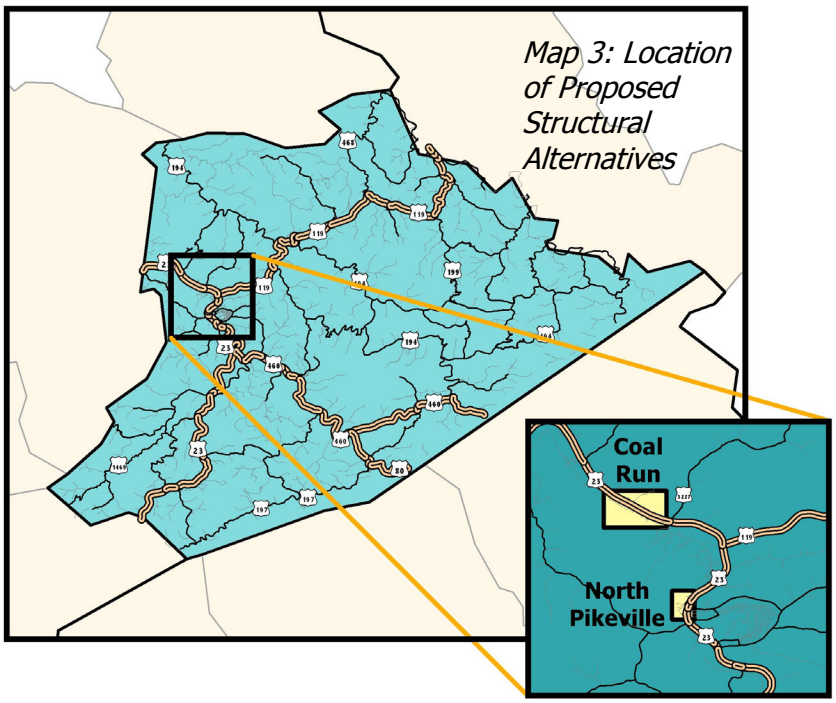
Introduction

Based upon the structural flood protection alternatives developed prior to the Contractor conducting personal interviews, the Corps developed a list of 62 structures to be interviewed. These 62 structures would be protected by two individual floodwall and levee systems in the Coal Run and North Pikeville areas. Of the 62 structures, respondents from 37 structures (59.7 percent) participated in personal interviews and a total of 44 questionnaires were completed.



Of the 44 questionnaires completed, nonresidential responses accounted for 68.2 percent (30 responses) and residential responses accounted for the remaining 31.8 percent (14 responses).

Structural area survey results will be presented in several ways. The structural nonresidential survey results will be presented first, followed by the structural residential survey results. Additionally, data will be presented for Coal Run and North Pikeville to allow for specific area analysis. The format in which the survey results and conclusions are discussed is as follows: 1) resident and family (except structural nonresidential section), 2) structures and flooding, 3) feelings and concerns about the community and flooding, and 4) participation rate. Overall existing community cohesion for the structural area surveys will not be presented here. Data for Coal Run and North Pikeville is reported individually later in this report.



Map 3: Location of Proposed Structural Alternatives

NONRESIDENTIAL SURVEYS

Structures and Flooding

Post Office and Community (Questions 1A and 1B)

Of the 30 respondents to the structural, nonresidential survey, all received mail through the Pikeville post office. A majority of nonresidential owner/operators also live in either Coal Run (86.7 percent) or North Pikeville (10.0 percent). The remaining respondent lives in Pineville, Kentucky and commutes to Coal Run to operate a business in the area.

Occupied Tenure, Ownership and Structure Age (Questions 2, 3 and 4)

The average length of time each respondent has occupied their structure is 12.8 years, thus many of the owner/operators did not occupy their current location at the time of the 1977 flood. Four respondents indicated they have remained in the same location for more than 30 years (13.3 percent), although 16 respondents indicated their tenure was less than ten years (53.3 percent).

Structures were equally as likely to be rented as they were to be owned (46.7 percent, respectively). The remaining 6.6 percent of respondents owned the structure, but leased the land.

Only 24 of the 30 respondents knew the approximate age of their structure. Of these 24, structure age varied from 1 year to 50 years, with an average of 22.6 years. Six structures were 30 years old or older, eight structures were between 20 and 29 years old, seven structures were between 10 and 19 years old, and the remaining three structures were less than 10 years old. A majority of surveyed nonresidential structures have been built since the 1977 flood, although very few recently.

Knowledge about Flooding, Flood Insurance, Number of Times Experienced Flooding and Experiences as a Result of Flooding (Questions 6, 7, 9 and 10)

Question 6, 7, 9 and 10 are grouped together here because they all refer to flooding and its effects. Of the 30 interviews, one respondent was unable to answer Question 6. Of the 29 who were able to answer, 22 answered in the affirmative - that they would have moved to the location even if they knew it could be flooded (75.9 percent) and many said they were aware of the possibility, but chose to locate there despite the chance of flooding. Seven respondents answered in the negative – that they would not have moved to the location if they had been aware of the possibility of flooding (24.1 percent).

Eight respondents were unable to answer Question 7 concerning the purchase of flood insurance. Of the remaining 22 respondents, 12 indicated they do currently pay for flood insurance (54.5 percent) and 10 said they do not currently pay for flood insurance (45.5 percent). Several respondents who do not pay for flood insurance indicated that the high cost was prohibitive. Many of the respondents who were unable to answer this question were business operators (managers or employees) rather than owners, thus many were not knowledgeable about whether this was required for the structure.

A majority of respondents (73.3 percent) indicated they had never experienced flooding while occupying their location. Several structures flooded once (16.7 percent) and three reported flooding twice during their occupation of the building (10.0 percent). All respondents who have occupied their location for 30 or more years reported experiencing flooding once, if not twice.

Of those 22 respondents who never experienced flooding, only one reported experiencing dislocation from work as a result of flooding – the flooding affected being able to get to work, however, it did not affect the structure itself. For example, flood waters may have trapped a business owner at their place of residence or made commuting to work impossible.

Of the eight respondents who experienced flooding, one was unable to answer about any specific experiences. Of the eight respondents who reported experiencing negative impacts of the flooding, 100.0 percent experienced dislocation from work, 87.5 percent experienced lost work days and wages, 87.5 percent experienced flood damage, 62.5 percent experienced employees missing work and none reported medical expenses related to flooding.

Conclusions

Term of structure occupancy and owner-occupancy indicate these areas may be in fluctuation or transition. Many of the nonresidential structures along the river were constructed since the 1977 flood and over half of the structures have been occupied by the interviewee for less than ten years. In addition, an equal number of respondents own their structure as rent/lease. Both of these statistics indicate a lower level of community cohesion.

The commercial areas surveyed are relatively new, can be characterized as highway-oriented, and are geographically dispersed. The physical attributes of the area also lend themselves to lower community cohesion among owner/operators than other business districts in the county such as downtown Pikeville or Elkhorn City.

Feelings and Concerns about the Community and Flooding

Special Characteristics of the Neighborhood (Question 5)

When asked if there were things about the neighborhood that were special to them, five respondents (16.7 percent) answered that there was nothing special about the neighborhood. The responses from those who feel the neighborhood has special characteristics (25 respondents) were relatively consistent. Responses were grouped into the following categories:

Special Characteristics	Number of Responses	% of Total Responses
Good Access, Visibility, High Traffic Volume	18	60.0%
Good Location	11	36.7%
Nothing	5	16.7%
Convenient	4	13.3%
Room for Expansion	2	6.7%
My Business	1	3.3%
Customers	1	3.3%
Affordable	1	3.3%

Concern about Flooding (Question 8)

Of the 30 respondents, 16.7 percent were very concerned about future flooding, 43.3 percent were somewhat concerned and the remaining 40.0 percent were not at all concerned about flooding. The lack of concern by a significant percentage of respondents may be attributed to the almost 30-year gap between the survey and the flood of record in 1977. Additionally, the length of time interviewees have occupied their buildings may affect respondent attitudes about flooding. Respondents who began operating businesses in the area after 1977 may not remember the damage caused by a major flood, and, as a result, are less concerned about future flooding. Of the four respondents who have occupied their structures for 30 or more years, three (75.0 percent) indicated they were somewhat or very concerned about flooding. Of the 14 respondents who have occupied their structures for ten or more years, nine (64.3 percent) indicated they were somewhat or very concerned about flooding.

Feelings and Major Concerns about Acquisition (Questions 11 and 13)

Half of the 30 respondents either strongly support or support their building being acquired in order to construct a larger flood protection project that would protect part or all of the community. Eight respondents (26.7 percent) had no opinion about being acquired as part of a larger flood protection project, and the remaining seven

respondents (23.3 percent) either strongly oppose or oppose being acquired.

When asked about their biggest concerns if their structure and property were to be acquired by the Government, many respondents identified more than one concern. Identifying more than one major concern indicates respondents' overall concern regarding acquisition is high. The most frequent response was "finding a good location to move to."

Major Concerns about Acquisition	Number of Responses	% of Total Respondents
Finding a Good Location to Move to	23	76.7%
Fair Price and Moving Expenses	21	70.0%
Cost of Re-establishing Business at a New Location	19	63.3%
Locating Suitable Building	17	56.7%
Maintaining Business Relationships and/or Customer Base	14	46.7%
Other Concerns	4	13.3%
No Concerns	1	3.3%

Other concerns include: loss of income during a move, finding a new location with adequate parking and expansion area, finding a new location that is suitable and affordable, and having enough advance notice and information to make good decisions. All of these concerns were mentioned once by respondents.

Moving Preferences (Question 12)

Of the 30 respondents, 27 respondents (90.0 percent) prefer to stay within the neighborhood or community if they were required to relocate. Several owner/occupants expressed concern that, while they prefer to stay in the community or neighborhood for various reasons, there is a lack of developable land within the community and Pike County. Two respondents would prefer to relocate to another part of Pike County, and one respondent indicated they would move within the county or retire to another state (decision was dependent on other life events).

Major Concerns about Floodwall or Levee (Question 14)

When asked about major concerns about a new levee or floodwall being built near their structure, as a group, respondents indicated that safety during flooding was their largest concern (56.7 percent). Respondents were allowed to "check all that apply," thus the total number of responses (78) exceeds the number of respondents (30). Major concerns for nonresidential structural respondents are included in the following table.

Major Concerns about Floodwall or Levee	Number of Responses	% of Total Respondents
Safety During Floods	17	56.7%
Impact on Activities Around Business	16	53.3%
Distance from Business	11	36.7%
Appearance	8	26.7%
Impact on Property Value	8	26.7%
Type of Construction	8	26.7%
Other Concerns	8	26.7%
Visibility from Business	2	6.7%
No Concerns	0	0.0%

Other concerns included: impacts on parking (3 responses), construction impacts (2 responses), recreation areas lost (2 responses) and safety of children playing near the wall (1 response). Among the 30 respondents, all identified at least one major concern.

Flooding Solution Preferences (Question 15)

When asked to choose possible solutions to the local flooding problems, in general, respondents agreed that some measure of flood protection was necessary, although responses were dispersed among the six options given. Of the 30 respondents, most considered permanent new floodwalls and levees to be a good solution to the local flood problems. Four respondents were unable to answer the question, stating that they either did not feel qualified to answer or they did not know. Respondents were allowed to "check all that apply," thus the total number of responses (84) exceeds the number of respondents (30). Other options presented by respondents included operating the reservoir at an appropriate level to protect downstream structures from flooding and erosion control.

Preferences for Permanent Flood Problem Solutions	Number of Responses	% of Total Respondents
Permanent New Floodwalls & Levees	20	66.7%
Flood Insurance & Floodplain Zoning	14	46.7%
Present City Levees, Combined with Emergency Flood Fighting & Flood Forecasting	12	40.0%
Relocating Most-Frequently Flooded Structures	11	36.7%
Raise and/or Floodproofing Most-Frequently Flooded Structures	11	36.7%
Channel Modifications to Reduce Flood Levels	10	33.3%
No Opinion	4	13.3%
Other		
- Operate Reservoirs to Protect	1	3.3%
- Erosion Control	1	3.3%

Conclusions

Among nonresidential respondents in the structural alternative area (Coal Run and North Pikeville), most reported the location has many special qualities; respondents feel good accessibility, visibility and high traffic volumes keep their businesses going. Finding a suitable location to maintain the same high visibility and accessibility may prove difficult given that 90 percent of respondents want to remain in the same community or neighborhood. In the Coal Run and North Pikeville areas, the Corps should evaluate the need for providing Community Development Sites should suitable relocation sites prove unavailable. It is important to mention that nonresidential structure owners will be more concerned with the location of a development site than residential structure owners due to the importance of location in operating a successful business.

Respondents were less concerned about the physical attributes of a floodwall or levee, if built, and more concerned with safety during a flood. This indicates that respondents may value a floodwall as a resource rather than a liability for the community. A permanent new floodwall or levee is the preferred measure of flood protection among respondents.

Participation Rate

Raise-in-Place Participation (Question 16A)

When asked about their desire to participate in a raise-in-place floodproofing alternative for their structure, 43.4 percent indicated interest in participating. The overall structural raise-in-place participation rate is 47.7 percent.

Acquisition Participation (Question 16B)

By comparison, when given the second option of being acquired by the Government, more respondents were willing to participate. Acquisition interested 63.3 percent of respondents. The overall structural acquisition participation rate is 65.9 percent.

Over one-fourth of respondents (26.7 percent) indicated they would not participate in either program and 33.3 percent reported interest in participating in either program.

Conclusions

Participation rates are difficult to determine accurately due to the number of influences which contribute to this kind of decision. In addition, a respondent may change their mind once, if not several times, after gathering all pertinent information and further evaluating options. Participation rates may also vary due to community cohesion – if a group of residents are willing to participate, this may influence others who are undecided to participate as well. The information

gathered during the personal interviews may vary from final participation rates, but it does provide a benchmark and indicates willingness to participate in the nonstructural program.

Answers by respondents being protected by a structural alternative, as is the case here, may seem less informative given they could have neither raise-in-place nor acquisition as an option. On the other hand, if residents do not desire the protection of a structural alternative, the above participation rates will become more useful.

RESIDENTIAL SURVEYS

Resident and Family

Age of Respondent (Question 2)

When asked to identify the appropriate age cohort that contained their age, responses varied from 45-49 years to over 80 years of age. The survey respondents can be categorized as older than the county's population as a whole. The median age among respondents was approximately 65 years of age, while the median age for Pike County as presented in the socio-economic data is 37.1 years of age. Pike County's median age is similar to adjacent counties and the Commonwealth.

Number of Persons per Household (Question 3)

The number of persons per household among survey respondents is lower than that of the county and Commonwealth in 2000. The average number of persons per household among the residential structural survey respondents is 2.00 persons. By comparison, the average for the Pike County and Kentucky was 2.46 and 2.47 persons, respectively. Given the median age of respondents, it is not surprising that the study area also has a smaller household size because elderly persons often live alone or with their spouse, but typically do not have children or other extended family living with them.

Marital Status (Question 4)

A majority of survey respondents reported their marital status as married (57.1 percent), or widowed (28.6 percent). Only one respondent indicated they were single and another respondent reported their marital status as divorced (7.1 percent, respectively).

Educational Attainment (Question 5)

Of the 14 respondents, 92.9 percent have obtained a high school diploma or higher and 21.4 percent have completed four or more years of college. Educational attainment of survey respondents is much higher than Pike County and the Commonwealth. In 2000, 61.8 percent of Pike County residents had completed high school and 9.9 percent had completed four years of college or more. Kentucky's educational attainment in 2000 was higher than Pike County's, but still lower than the study area.

Employment Status, Type of Work, Travel Distance and Commute Time (Questions 6, 7, 8A and 8B)

Of the 14 respondents, five are retired, two are disabled, and two are homemakers. These three categories' combined total is 64.3 percent

of respondents. The remaining five respondents (35.7 percent) are employed outside of the home, all in the business field. The average distance traveled to work is 4.4 miles. The average commute is 9.8 minutes.

Household Income (Question 9)

Respondents were given three categories to choose from when identifying their annual income to the interviewer: 1) less than $25,000, 2) between $25,000 and $50,000, or 3) greater than $50,000. Among structural survey respondents, one person refused to answer the question. Of the remaining 13 respondents, 38.5 percent earned less than $25,000 last year, 30.8 percent earned between $25,000 and $50,000 and the remaining 30.8 percent earned more than $50,000 last year. Income is evenly distributed among the three categories and the median annual income would fall in the $25,000 to $50,000 category. Median household income among all Pike County households in 2000 was $23,930 and $33,672 for all Kentucky households.

Conclusions

The Coal Run and North Pikeville areas, which comprise the structural survey respondents, are older and more educated compared to all Pike County residents. One indicator of high community cohesion is the short travel distance and commute time as reported by the employed respondents. Living close to work indicates close ties to the community and may indicate that residents will be less likely to move. Another indicator of community cohesion is the age of residents. Elderly residents are often less likely to move, thus providing stability to a neighborhood or community.

Structures and Flooding

Post Office and Community (Questions 1A and 1B)

All respondents reported their home post office is in Pikeville. Thirteen respondents live in Coal Run and one respondent resides in North Pikeville.

Type of Structure, Occupied Tenure, Ownership and Age of Structure (Questions 10, 11, 12 and 13)

Of the 14 respondents, 13 (92.9 percent) live in single-family homes and one (7.1 percent) lives in a mobile or manufactured home. The average age of the 14 structures is 33.8 years, with a range between 3 and 60 years. A total of 92.9 percent of structures are owner-occupied. Owner-occupancy is significantly higher among survey respondents compared to the county. In 2000, 70.3 percent of Pike County's housing units were owner-occupied. The average number of years respondents have lived in their current homes is 16.6 years.

Knowledge about Flooding, Flood Insurance, Number of Times Experienced Flooding and Experiences as a Result of Flooding (Question 16, 17, 19 and 20)

Question 16, 17, 19 and 20 are grouped together here because they all refer to flooding and its effects. Of the 14 interviews, one respondent was unable to answer Question 16. Of the 13 who were able to answer, ten answered in the affirmative - that they would have moved to the location even if they knew it could be flooded (76.9 percent) and many said they were aware of the possibility, but chose to move there despite the chance of flooding. Seven respondents answered in the negative – that they would not have moved to the location if they had been aware of the possibility of flooding (23.1 percent). These response rates are very similar when compared to the nonresidential structural surveys. Among all structural survey respondents that were able to answer this question (42 respondents), 72.7 percent would have moved to their current location even if they knew it could flood.

According to respondents, 57.1 percent currently pay for flood insurance. Half of the respondents indicated that they have experienced flooding while residing at their current location. Two structures flooded once (14.3 percent) and five respondents reported flooding twice during their occupancy of the building (35.7 percent). All respondents who have occupied their location for 30 or more years reported experiencing flooding once, if not twice.

Of the seven respondents who experienced flooding, 100 percent experienced flood damages, 71.4 percent experienced lost work days and wages, 57.1 percent experienced dislocation from work, 57.1 percent experienced children missing school days, and 14.3 percent had medical expenses related to flooding.

Conclusions

Length of structure occupancy and owner-occupancy are both indicators of community cohesion. Among the residential structures surveyed in Coal Run and North Pikeville, the average term of occupancy was 16.6 years. By comparison, the national average for occupied housing units was approximately six years as reported in the 2001 American Housing Survey (in 2001, the median year householder moved into unit was 1995.) The area's high average length of occupancy indicates a high level of community cohesion. Although the average for the survey area is much higher than the national average, over half of the residents (57.1 percent) interviewed have lived there less than ten years. Overall, longer terms of residence would tend to increase community cohesion.

The owner-occupancy rate for the area is also much higher than the county rate indicating high community cohesion for the area. The

owner-occupancy rate is a good indicator of community cohesion because homeowners are less likely than renters to move since they have a financial commitment tied to that location. A community with high homeowner-occupancy is generally assumed to be stable, and a place where residents have a personal connection to neighbors and the neighborhood.

Feelings and Concerns about the Community and Flooding

Number of Visits to Friends/Family per Week (Question 14)

The number of visits to friends and family per week is a primary indicator of community cohesion. When asked how many times they visited with friends and family in the area, responses varied from 1 to 14 visits, with an average of 3.6 visits per week.

When data is broken down by correlating the number of years of residence in the current home compared to the number of visits made each week, residents that have lived there less than ten years visit friends and family more often, on average, than those that have lived in the neighborhood longer. This information can be misleading since one respondent reported visiting friends and family 14 times per week; this respondent has lived in their current residence four years.

Reside at Current Location	Total Number of Visits	Average Visits per Week
0 - 9 years	35	4.4
10 - 19 years	---	---
20 -29 years	8	2.7
30 + years	8	2.7

When data is broken down by correlating age and the number of visits made each week, residents 65 years of age and over visit friends and family more often. When comparing employment status and the number of visits made each week, retired persons were found to visit friends and family more often.

Characteristic	Total Number of Visits	Average Visits per Week
45 - 64 years	20	2.9
65 + years	31	4.4
Employed/Self-Employed	17	3.4
Retired	23	4.6

Special Characteristics of the Neighborhood (Question 15)

When asked if there were characteristics about the neighborhood that were special to them, one respondent (7.1 percent) answered that there was nothing special about the neighborhood. The responses from those who feel the neighborhood has special characteristics (13 respondents) were relatively consistent. Responses were grouped into the following categories:

Special Characteristics	Number of Responses	% of Total Responses
Family, Neighbors	8	57.1%
Safety	5	35.7%
Quiet, Peaceful	4	28.6%
Convenient	3	21.4%
Good Location	3	21.4%
Open Space, Recreation, River	2	14.3%
Well-Maintained	1	7.1%
My Home, Heritage	1	7.1%
Nothing	1	7.1%

This open-ended question allowed respondents to explain, in their own words, why they like their neighborhood and what characteristics they feel are special. Good location, convenience, and people (customers, family or neighbors) were mentioned among both the residential and nonresidential structural survey responses.

Concern about Flooding (Question 18)

Of the 14 respondents, 42.9 percent were very concerned about future flooding, 50.0 percent were somewhat concerned, and the remaining 7.1 percent were not at all concerned about flooding. Residential respondents in the Coal Run and North Pikeville areas are significantly more concerned about future flooding than nonresidential respondents. Over 90 percent of residential respondents are very or somewhat concerned whereas 60 percent of nonresidential respondents are very or somewhat concerned about future flooding. Proximity to and visibility of the river, especially in Coal Run, may lead residential respondents to be more concerned than nonresidential respondents.

Feelings and Major Concerns about Acquisition (Question 21 and 24)

Half of the 14 respondents either strongly support or support their home being acquired in order to construct a larger flood protection project that would protect part or all of the community. Four respondents (28.6 percent) had no opinion about being acquired as part of a larger flood protection project, and the remaining three respondents (21.4 percent) either strongly oppose or oppose being acquired.

When asked about their biggest concerns if their home and property were to be acquired, all respondents identified at least one major concern and many identified more than one. Identifying more than one major concern indicates respondents' overall concern regarding acquisition is high. All respondents identified "getting a fair price for your home and moving expenses" as a major concern.

Major Concerns about Acquisition	Number of Responses	% of Total Respondents
Fair Price + Moving Expenses	14	100.0%
Finding a Good Neighborhood	8	57.1%
Locating Suitable House/Apt.	7	50.0%
Cost of Purchasing/Financing	6	42.9%
Maintaining Old Friendships	2	14.3%
Other		
- Moving	2	14.3%
- Provision for Disabled Family Member	1	7.1%
- Advanced Notice to Build New Home	1	7.1%
Finding Good Schools	0	0.0%
No Concerns	0	0.0%

Other concerns include: moving to a new location (2 responses), provisions by the Government for a disabled family member (1 response), and having enough advance notice to build a new home elsewhere (1 response).

Moving Preferences (Question 22)

Of the 14 respondents, one respondent was unable to answer this question. Of the 13 respondents who did answer Question 22, 76.9 percent prefer to stay within the neighborhood or community if they were required to relocate. One respondent would prefer to relocate to another part of Pike County (7.7 percent), and two respondents would prefer to relocate outside of the county, but within the Commonwealth of Kentucky (15.4 percent). No respondents indicated interest in moving outside of the state.

Major Concerns about Floodwall or Levee (Question 23)

When asked about major concerns about a new levee or floodwall being built near their home, as a group, respondents indicated that its appearance was their largest concern (58.3 percent). Safety during flooding and impact on property value were also major concerns (50.0 percent each). Of the 14 residential survey respondents, two were unable to answer this question. The remaining respondents were allowed to "check all that apply," thus the total number of responses (34) exceeds the number of respondents (12).

Other concerns included: downstream flooding and inconvenience during construction. Among the 12 respondents, 11 identified at least one major concern.

Major Concerns about Floodwall or Levee	Number of Responses	% of Total Respondents
Appearance	7	58.3%
Safety During Floods	6	50.0%
Impact on Property Value	6	50.0%
Distance from Residence	5	41.7%
Visibility from Residence	4	33.3%
Type of Construction	4	33.3%
Other Concerns	2	16.7%
No Concerns	1	8.3%
Impact on Activities Around Home	0	0.0%

Flooding Solution Preferences (Question 26)

When asked to choose possible solutions to the local flooding problems, as a whole, respondents agreed that some measure of flood protection was necessary, although responses were dispersed among the six options provided. Among the respondents, a majority considered permanent new floodwalls and levees to be a good solution to the local flood problems. Respondents were allowed to "check all that apply," thus the total number of responses (44) exceeds the number of respondents (14). One other option presented by a resident was the construction of another reservoir in the area. Of the 14 respondents, one respondent had no opinion or preference about permanent flood problem solutions.

Preferences for Permanent Flood Problem Solutions	Number of Responses	% of Total Respondents
Permanent New Floodwalls & Levees	10	71.4%
Raise and/or Floodproofing Most-Frequently Flooded Structures	8	57.1%
Channel Modifications to Reduce Flood Levels	7	50.0%
Relocating Most-Frequently Flooded Structures	6	42.9%
Flood Insurance & Floodplain Zoning	6	42.9%
Present City Levees, Combined with Emergency Flood Fighting & Flood Forecasting	5	35.7%
No Opinion	1	7.1%
Other		
- Another Reservoir	1	7.1%

Conclusions

The number of visits to friends and family per week is a primary indicator of community cohesion. The more connected residents are within the community, measured by the number of visits to friends and family during the week, the more likely they to remain in the

area. An emotional connection to friends and family in the area can also transcend to neighbors. A majority of respondents indicated that family and neighbors make their neighborhood special. However, when asked what major concerns they had about Government acquisition, few respondents considered maintaining old friendships a major concern. Residents were much more concerned about getting a fair price for their home and moving expenses (100 percent) and finding a good neighborhood to move to.

Approximately 85 percent of respondents would prefer to stay within their own community/neighborhood or within Pike County if they were required to relocate due to acquisition. This high percentage indicates that a very high level of community cohesion currently exists. Residents want to stay in the area because of the many special neighborhood characteristics they noted in Question 15, specifically family, neighbors, safety, peacefulness, location, and convenience. Residents are also concerned that if their homes are acquired, they may have difficulty finding another suitable neighborhood. For the reasons mentioned above, the Corps should evaluate the need for providing Community Development Sites should suitable relocation sites prove unavailable.

Participation Rate

Raise-in-Place Participation (Question 25A)

When asked about their desire to participate in a raise-in-place floodproofing alternative for their home, one resident was unable to answer this question. Of the remaining 13 respondents, 61.5 percent indicated interest in participating in a raise-in-place floodproofing program. The overall structural raise-in-place participation rate is 47.7 percent.

When data is broken down by age groups, residents 45 – 64 years of age (85.7 percent participation rate) were much more likely than residents 65 years and older (28.6 percent) to indicate interest in the raise-in-place program. When data is broken down by income levels, residents who earn less than $25,000 were least likely to indicate interest in participating (33.3 percent). By comparison, 75.0 percent of residents earning between $25,000 and $50,000 said they would participate and 50.0 percent of residents earning greater than $50,000 indicated interest in participating.

Acquisition Participation (Question 25B)

By comparison, when given the second option of being acquired by the Government, 76.9 percent of respondents were willing to participate. Again, one respondent was unable to answer this question; therefore, the percentage presented above is based on 13

responses. The overall structural acquisition participation rate is 65.9 percent.

Again, when data is broken down by age groups, residents 45 – 64 years of age (85.7 percent participation rate) were much more likely than residents 65 years and older (57.1 percent) to indicate interest in the acquisition program. When data is broken down by income levels, residents who earn less than $25,000 were slightly less likely to indicate interest in participating in the acquisition program (66.7 percent). By comparison, 75.0 percent of residents earning between $25,000 and $50,000 said they would participate and 75.0 percent of residents earning greater than $50,000 indicated interest in participating.

Participation appears to be more likely among residential, structural survey respondents than nonresidential; fewer than ten percent of respondents (7.1 percent) indicated they would not participate in either program, while 42.9 percent would participate in either the raise-in-place or acquisition program.

Conclusions

As discussed earlier, participation rates are difficult to determine accurately due to the number of influences which contribute to this kind of decision. Respondents may change their mind once, if not several times, after gathering all pertinent information and further evaluating options. Participation rates also may vary due to community cohesion – if a group of residents is willing to participate, this may influence others who are undecided to participate as well. The information gathered during the personal interviews may vary from final participation rates, but it does provide a benchmark and indicates willingness to participate in the nonstructural program.

Answers by respondents being protected by a structural alternative, as is the case here, may seem less informative given they could have neither raise-in-place nor acquisition as an option. On the other hand, if residents do not desire the protection of a structural alternative, the above participation rates will become more useful.

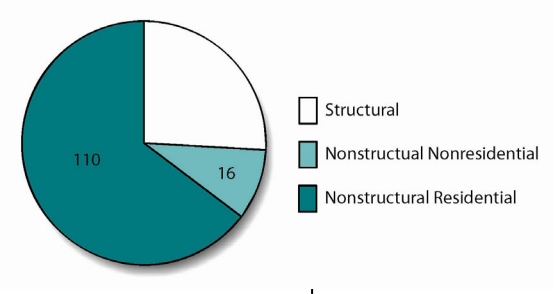
Overall Structural Area Existing Community Cohesion

The areas where structural surveys were completed are geographically spread across the two communities of Coal Run and North Pikeville. Discussing the overall existing community cohesion is more appropriate for each community, rather than for all structural surveys as a group. Individual discussions of overall existing community cohesion can be found in the Coal Run and North Pikeville Area Survey Results and Community Cohesion section of this report.

Nonstructural Area Survey Results and Community Cohesion

INTRODUCTION

A majority of structures eligible for the Section 202 Program are located outside of the more densely populated areas of Coal Run and North Pikeville; as a result, they would not be protected by one of the structural flood protection alternatives. The Corps developed a list of 318 structures to be interviewed within areas to be protected by nonstructural flood alternatives. These 318 structures would be protected by the nonstructural flood protection alternative deemed most cost effective and beneficial by the Corps. Of the 318 structures, respondents from 126 structures (39.6 percent) completed the personal interview questionnaire.



Of the 126 questionnaires completed, nonresidential responses accounted for 12.7 percent (16 responses) and residential responses accounted for 87.3 percent (110 responses).

Nonstructural nonresidential survey results will be presented first, followed by the nonstructural residential survey results. The format in which the survey results and conclusions are discussed is as follows: 1) resident and family (except nonstructural nonresidential section), 2) structures and flooding, 3) feelings and concerns about the community and flooding, and 4) participation rate. Overall existing community cohesion for the nonstructural area will be discussed at the end of this section.

NONRESIDENTIAL SURVEYS

Structures and Flooding

Post Office and Community (Questions 1A and 1B)

Of the 16 respondents to the nonstructural, nonresidential survey, 81.3 percent received mail through the Pikeville post office, while 12.5 percent received mail through Millard and the remaining 6.3 percent received mail through Shelbiana. Owner/operators live in several communities and neighborhoods across Pike County.

Respondent's Residence	Number of Responses	% of Total Responses
North Pikeville	5	31.3%
Coal Run	2	12.5%
Millard	2	12.5%
Pikeville	2	12.5%
Shelbiana	2	12.5%
Green Meadows	1	6.3%
Raccoon	1	6.3%
Scott Addition	1	6.3%

Occupied Tenure, Ownership and Age of Structure (Questions 2, 3 and 4)

The average length of time each respondent has occupied their structure is 13.3 years. None of the 16 owner/operators indicated they have occupied their location for more than 30 years, thus all of the owner/operators who occupied the structures at the time of the 1977 flood have since moved for unknown reasons.

Nonresidential structures eligible for the nonstructural program were more likely to be owner-occupied (61.5 percent) than renter-occupied (31.3 percent). This represents a higher rate of owner-occupancy compared to nonresidential, structural survey respondents which reported 46.7 percent owner-occupancy. The remaining 6.3 percent of respondents owned the structure, but leased the land.

All 16 respondents were able to report the approximate age of their structure. Structure age varied from 4 years to 100 years, with an average of 26.9 years. Six structures were 30 years old or older, four structures were between 20 and 29 years old, four structures were between 10 and 19 years old, and two structures were less than ten years old. A majority of surveyed nonresidential structures have been built since the 1977 flood, although few recently.

Knowledge about Flooding, Flood Insurance, Number of Times Experienced Flooding and Experiences as a Result of Flooding (Question 6, 7, 9 and 10)

Question 6, 7, 9 and 10 are grouped together here because they all refer to flooding and its effects. Of the 16 respondents, 9 answered in the affirmative - that they would have moved to the location even if they knew it could be flooded (56.3 percent) and many said they were aware of the possibility, but chose to locate there despite the chance of flooding. Seven respondents answered in the negative – that they would not have moved to the location if they had been aware of the possibility of flooding (43.8 percent). When asked whether they currently pay for flood insurance, exactly half of the respondents indicated they do currently pay.

A majority of respondents (68.8 percent) indicated they had never experienced flooding while occupying their location. Several structures flooded once (18.8 percent), one reported flooding twice (6.3 percent), and one reported flooding four times during their occupation of the building (6.3 percent).

Of those 11 respondents who never experienced flooding, only one reported experiencing any of the negative events as a result of flooding. This respondent reported dislocation from work and missed work days as a result of flooding – the flooding affected being able to get to work, however, it did not affect the structure itself. For example, flood waters may have trapped a business owner at their place of residence or made commuting to work impossible.

Although only five respondents said they experienced flooding, six respondents recorded negative impacts of the flooding, 83.3 percent experienced lost work days and wages, 66.7 percent experienced dislocation from work, 50.0 percent experienced flood damage, 50.0 percent experienced employees missing work and none reported medical expenses related to flooding.

Conclusions

Term of structure occupancy and owner-occupancy are indicators of community cohesion. Term of occupancy, on average, was high even though none of the respondents indicated occupying their structure for more 30 years. In addition, owner-occupancy was significantly higher than among nonresidential, nonstructural survey respondents.

While the two statistics above indicate a moderate to high level of community cohesion, the fact that the surveyed nonresidential structures are geographically dispersed along the Levisa and Russell Fork Rivers in Pike County may indicate that a high level of community cohesion is unlikely. Typically a central business district or commercial district physically links business owners together to

establish community cohesion, although, if structures are geographically dispersed, no cluster or district is created. Small clusters of nonresidential structures may experience some degree of weakened community cohesion.

Feelings and Concerns about the Community and Flooding

Special Characteristics of the Neighborhood (Question 5)

When asked if there were characteristics about the neighborhood that were special to them, three respondents (18.8 percent) answered that there was nothing special about the neighborhood. The responses from those who feel the neighborhood has special characteristics (13 respondents) were relatively consistent. Responses were grouped into the following categories:

Special Characteristics	Number of Responses	% of Total Responses
Good Access/Visibility/High Traffic Volume	10	62.5%
Convenient	7	43.8%
Good Location	4	25.0%
Nothing	3	18.8%
People (Neighbors, Market)	2	12.5%
Parking Availability	2	12.5%
Business Opportunities, Ownership	2	12.5%

This open-ended question allowed respondents to explain, in their own words, why they like their neighborhood and what characteristics they feel are special. Good access, visibility, and high traffic volume; convenience; and good location were mentioned most frequently. These responses were also mentioned by nonresidential, structural survey respondents frequently.

Concern about Flooding (Question 8)

Of the 16 respondents, 6.3 percent were very concerned about future flooding, 50.0 percent were somewhat concerned and the remaining 43.8 percent were not at all concerned about flooding. While more than half of respondents expressed some concern, a large percentage of respondents were not at all concerned about future flooding. The lack of concern by a significant percentage of respondents may be attributed to the almost 30-year gap between the survey and the 1977 flood. The length of time interviewees have occupied their buildings did not have any effect on their flooding concern among the nonresidential, nonstructural survey respondents.

Moving Preferences (Question 12)

When asked about relocation preferences, one respondent was undecided about where they would move if required to relocate. Of the remaining 15 respondents, 80.0 percent prefer to stay within the neighborhood or community if they were required to relocate. Several owner/occupants expressed concern that, while they prefer to stay in the community or neighborhood for various reasons, the lack of available, suitable land within the community and Pike County was a concern. One respondent would prefer to relocate to another part of Pike County, one respondent indicated they would prefer to relocate to another county within the Commonwealth of Kentucky, and one respondent indicated they would close their business if required to relocate. Each of the responses listed above represent 6.7 percent of the responses. No respondents indicated interest in moving outside of the state.

Major Concerns about Acquisition (Question 13)

When asked about their biggest concerns if their structure and property were to be acquired by the Government, all respondents identified at least one concern. Many respondents identified more than one concern about acquisition and 31.3 percent said all of the listed responses were major concerns for them. Identifying more than one major concern indicates respondents' overall concern regarding acquisition is high. The most frequent response was "finding a good location to move to." Almost 94 percent of respondents were concerned about this relocation issue. No other concerns were mentioned.

Major Concerns about Acquisition	Number of Responses	% of Total Respondents
Finding a Good Location to Move to	15	93.8%
Fair Price and Moving Expenses	12	75.0%
Maintaining Business Relationships and/or Customer Base	11	68.8%
Cost of Re-establishing Business at a New Location	9	56.3%
Locating Suitable Building	8	50.0%
Other Concerns	0	0.0%
No Concerns	0	0.0%

Conclusions

Among nonstructural, nonresidential survey respondents, most said their current location has many special qualities. Similar to the structural survey respondents (commercial areas in Coal Run and North Pikeville), nonstructural respondents felt good accessibility, visibility and high traffic volumes keep their businesses going. Finding a good location to maintain the same high visibility and accessibility may prove difficult given that 80 percent of respondents want to remain in the same community or neighborhood. In addition,

90 percent of structural nonresidential survey responses would also prefer to relocate within the same neighborhood or community, which could create higher demand for suitable and affordable locations. As mentioned earlier, it is likely that nonresidential structure owners will be more concerned with the location of a new development site than residential structure owners due to the importance of location in operating a successful business. While finding a good location was the biggest concern, a high percentage of respondents were also concerned about maintaining their current business relationships or customer base. The Corps should evaluate the need for providing Community Development Sites should suitable relocation sites prove unavailable.

A high level of interest in remaining in the neighborhood or community and concern about maintaining relationships indicates a high level of community cohesion for survey respondents.

Participation Rate

Raise-in-Place Participation (Question 11A)

When asked about their desire to participate in a raise-in-place floodproofing alternative for their structure, only 25.0 percent indicated interest in participating. The overall nonstructural raise-in-place participation rate is 43.2 percent.

Acquisition Participation (Question 11B)

By comparison, when given an alternate option of being acquired by the Government, more respondents were willing to participate. Acquisition interested 62.5 percent of respondents. Another respondent indicated they might be interested, but would need more information to make the decision. The overall nonstructural acquisition participation rate is 67.5 percent.

One-fourth of respondents indicated they would not participate in either program and 12.5 percent indicated interest in participating in either the raise-in-place or the acquisition program.

Conclusions

Participation rates are difficult to determine accurately due to the number of influences which contribute to this kind of decision. In addition, a respondent may change their mind once, if not several times, after gathering all pertinent information and further evaluating options. Participation rates may also vary due to community cohesion – if a group of residents is willing to participate, this may influence others who are undecided to participate as well. The information gathered during the personal interviews may vary from final participation rates, but it does provide a benchmark and indicates willingness to participate in the nonstructural program.

In general, respondents were much more interested in participating in an acquisition program than a floodproofing program. If alternative development sites were not available in the same community, acquisition participation rates may vary.

RESIDENTIAL

Resident and Family

Age of Respondent (Question 2)

When asked to identify the appropriate age cohort that contained their age, responses varied from 25-29 years to over 80 years of age. The survey respondents can be categorized as older than the county's population as a whole. The median age among respondents was within the 50-54 year age group, while the median age for Pike County as presented in the socio-economic data is 37.1 years of age. Pike County's median age is similar to adjacent counties and the Commonwealth. One respondent refused to answer this question; therefore, 109 total responses are presented below.

Respondent's Age Group	Number of Responses	% of Total Responses
25-29 years	3	2.8%
30-34 years	11	10.1%
35-39 years	4	3.7%
40-44 years	19	17.4%
45-49 years	9	8.3%
50-54 years	14	12.8%
55-59 years	15	13.8%
60-64 years	5	4.6%
65-69 years	9	8.3%
70-74 years	8	7.3%
75-79 years	10	9.2%
80 + years	2	1.8%

Number of Persons per Household (Question 3)

The number of persons per household among survey respondents is slightly higher than that of the county and Commonwealth in 2000. The average number of persons per household among the residential nonstructural survey respondents is 2.57 persons. By comparison, the average for Pike County and Kentucky was 2.46 and 2.47 persons, respectively. One respondent refused to answer this question; therefore, the average household size is based on 109 responses.

Marital Status (Question 4)

Of the 110 total respondents, one refused to answer this question. A majority of survey respondents reported their marital status as married (74.3 percent). Of the remaining respondents, 11.9 percent reported being widowed, 9.2 percent reported being divorced, and 4.6 percent indicated they were single.

Educational Attainment (Question 5)

Of the 110 respondents, three people refused to respond or did not provide a response when asked about educational attainment. A total of 76.4 percent have obtained a high school diploma or higher and 26.4 percent have completed four or more years of college. Educational attainment of survey respondents is higher than compared to Pike County and the Commonwealth. In 2000, 61.8 percent of county residents had completed high school and 9.9 percent had completed four years of college or more. In 2000, 74.1 percent of Kentucky residents had completed high school and 17.1 percent had completed four years of college or more.

Employment Status, Type of Work, Travel Distance and Commute Time (Questions 6, 7, 9 and 10)

Of the 110 respondents, one respondent refused to answer this question. Of the remaining 109 respondents, 37 are retired, 14 are disabled, 11 are homemakers and one is a student. These four categories' combined total is 57.8 percent of respondents (63 responses). Of the remaining 42.2 percent, 36.7 percent of respondents are employed. Three respondents indicated they were temporarily unemployed and three reported their employment status as "other."

Of the 47 respondents who are considered part of the labor force, three refused to answer the question about what type of work they do. Of the remaining 44 respondent, 50.0 percent work in the service industry, 29.5 percent work in the business field, 13.6 percent work in industry (such as manufacturing or mining), 4.5 percent work in education, and 2.3 percent work for the government. Employment in varied fields indicates a diverse community.

The average distance traveled to work is 81.9 miles. This average distance is much higher when compared to structural survey responses (4.4 miles). The high average is attributed to one individual who travel more 2,700 miles to work. All responses varied from 0 miles (work at home) to 2,700 miles (travels long distance, although not every day). Two respondents left this question blank. If the one response of 2,700 miles is eliminated from the sample because it skews the data, the average distance traveled to work is 17.6 miles.

The average commute to work is 24.1 minutes, compared to 9.8 minutes for structural survey respondents. All responses varied from 0 minutes (work at home) to 240 minutes. Although one respondent indicating working 2,700 miles from home, the respondent did not provide an estimated commute time to interviewers. Three respondents left this question blank.

Household Income (Question 9)

Respondents were given three categories to choose from when identifying their annual income to the interviewer: 1) less than $25,000, 2) between $25,000 and $50,000, or 3) greater than $50,000. Among nonstructural survey respondents, 24 people refused to answer the question. Of the remaining 86 respondents, 44.2 percent earned less than $25,000 last year, 25.6 percent earned between $25,000 and $50,000 and the remaining 30.2 percent earned more than $50,000 last year. When the three income categories are compared, a larger percentage of respondents earn less than $25,000 per year, creating an income gap where fewer respondents earn between $25,000 and $50,000.

The median annual income would fall in the $25,000 to $50,000 category, similar to the structural survey respondents. Median household income among all Pike County households in 2000 was $23,930 and $33,672 for all Kentucky households.

Conclusions

The nonstructural, residential survey respondents are older and more educated compared to all Pike County residents. One indicator of community cohesion is the age of residents. Older residents are often less likely to move, thus providing stability to a neighborhood or community. One indicator of high community cohesion is short travel distance and commute time. Although the overall average for both of these indicators is high, data indicates a majority of respondents travel less than 20 miles to work (76.2 percent) or commute less than 20 minutes to work (68.3 percent). For less densely populated areas, such as these, living within 20 miles or 20 minutes of work indicates close ties to the community and may indicate that residents will be less likely to move.

Structures and Flooding

Post Office and Community (Questions 1A and 1B)

Of the 110 respondents to the nonstructural, residential survey, eight respondents did not indicate their post office and six respondents did not indicate the community in which they live. A majority of respondents receive their mail through the Pikeville post office (55.9 percent). Respondents also receive mail at other post offices, including Millard (14.7 percent), Shelbiana (13.7 percent), Elkhorn City (8.8 percent), Fords Branch (2.9 percent), Regina (2.9 percent), and one respondent (1.0 percent) indicated receiving mail in Morehead, Kentucky their spouse lives.

Residents live in several communities and neighborhoods across Pike County.

Respondent's Residence	Number of Responses	% of Total Responses
Millard	22	21.2%
Pikeville	18	17.3%
Shelbiana	17	16.3%
Mullins	13	12.5%
Coal Run	4	3.8%
Elkhorn City	4	3.8%
Pauley Addition	4	3.8%
Mossy Bottom	3	2.9%
Regina	3	2.9%
Draffin	2	1.9%
Garden Village	2	1.9%
Justiceville	2	1.9%
Keel Addition	2	1.9%

Other communities were identified by only one resident and are not listed in the table above. Those communities each represent 1.0 percent of the total responses; they include: Beaver Bottom, Bowles Addition, Breaks Road, Broadbottom, Lakeview, Ratliff Hole, Stone Coal, and Wainwright.

Type of Structure, Occupied Tenure, Ownership and Age of Structure (Questions 10, 11, 12 and 13)

When identified their structure type to interviewers, two of the 110 respondents were unwilling to answer Question 10. Of the remaining 108 respondents, 68 (63.0 percent) live in single-family homes, 36 (33.3 percent) live in a mobile or manufactured home, one (0.9 percent) lives in an apartment and one (0.9 percent) lives in a duplex. Two other respondents (1.9 percent) indicated that they live in some other type of structure.

A total of 87.0 percent of structures are owner-occupied. Owner-occupancy is significantly higher among survey respondents compared to the county. In 2000, 70.3 percent of Pike County's housing units were owner-occupied. Among the 110 respondents, two respondents were unwilling or unable to answer Question 11.

The average age of the structures is 28.4 years, with a range between 1 and 80 years. This average age and range represents answers from 100 respondents; ten respondents were unable or unwilling to answer this question.

The average number of years respondents have lived in their current homes is 16.5 years. Answers ranged from 0 years (respondent indicated that they do not currently live at the residence) to 71 years. The average term of occupancy and range represents answers from 108 respondents; again, two respondents were unwilling to answer this question.

Knowledge about Flooding, Flood Insurance, Number of Times Experienced Flooding, and Experiences as a Result of Flooding (Questions 16, 17, 19 and 20)

Question 16, 17, 19 and 20 are grouped together here because they all refer to flooding and its effects. Of the 110 interviews, four respondents were unable or unwilling to answer Question 16. Of the 106 who did respond, 40 answered in the affirmative - that they would have moved to the location even if they knew it could be flooded (37.7 percent) and many said they were aware of the possibility, but chose to move there despite the chance of flooding. By comparison, 65 respondents answered in the negative – that they would not have moved to the location if they had been aware of the possibility of flooding (61.3 percent). One respondent was undecided and thus answered "maybe." These response rates are markedly different when compared to the residential, structural surveys. Among residential, structural survey respondents that were able to answer this question (13 respondents), 76.9 percent would have moved to their current location even if they knew it could flood.

According to the 108 respondents who answered Question 17, 50.9 percent currently pay for flood insurance. Among all respondents that reported experiencing flooding, only a slightly higher percentage of residents currently pay for flood insurance (51.8 percent).

When asked about their flood experiences, three respondents either were unable to answer the question or gave the unquantifiable answer of "several." Of the 107 respondents who did provide quantifiable answers, a majority (51.4 percent) indicated that they have never experienced flooding while residing at their current location.

Of the 52 respondents that indicated the number flood experiences during their occupancy of the building, 27 structures have flooded once (25.2 percent), 9 structures have flooded twice (8.4 percent), 12 structures have flooded three times (11.2 percent), 2 structures have flooded four times (1.9 percent) and 2 structures have flooded five times (1.9 percent). Among respondents, the average number of floods experienced is 0.9 per household. All respondents who have occupied their location for 30 or more years reported experiencing flooding between one and four times, with an average of 2.3 times per household.

A total of 58 residents reported experiencing negative impacts from the flooding. Among these respondents, 70.7 percent experienced flood damage, 50.0 percent experienced children missing school days, 48.3 percent experienced lost work days and wages, 22.4 percent experienced dislocation from work, and 3.4 percent had medical expenses related to flooding.

Conclusions

Length of structure occupancy and owner-occupancy are both indicators of community cohesion. Among the residential structures surveyed, the average term of occupancy was 16.5 years. As mentioned earlier, the national average for occupied housing units was approximately six years as reported in the 2001 American Housing Survey (in 2001, the median year householder moved into unit was 1995.) Similar to the structural, residential survey respondents, the high average length of occupancy indicates a high level of community cohesion. Overall, longer terms of occupancy tend to increase community cohesion.

The owner-occupancy rate is also much higher than the county rate, which indicates a high level of community cohesion for the area. The owner-occupancy rate is a good indicator of community cohesion because homeowners are less likely than renters to move since they have a financial commitment tied to that location. A community with high homeowner-occupancy is generally assumed to be stable, a place where residents have a personal connection to neighbors and the neighborhood.

Feelings and Concerns about the Community and Flooding

Number of Visits to Friends/Family per Week (Question 14)

The number of visits to friends and family per week is a primary indicator of community cohesion. When asked how many times they visited with friends and family in the area, responses varied from 1 to 12 visits, with an average of 4.7 visits per week.

When data is broken down by correlating the number of years of residence in the current home compared to the number of visits made each week, residents that have lived there less than ten years and between 20 and 29 years visit friends and family more often, on average, than those that have lived in the neighborhood longest.

Reside at Current Location	Total Number of Visits	Average Visits per Week
0 - 9 years	200	4.8
10 - 19 years	87	3.3
20 -29 years	95	5.0
30 + years	77	3.7

When data is broken down by correlating age and the number of visits made each week, residents 25 to 44 years of age and over visit friends and family most often. When comparing employment status and the number of visits made each week, employed persons were found to visit friends and family more often. These two trends are in

opposition to the data presented from the structural, residential survey respondents.

Characteristic	Total Number of Visits	Average Visits per Week
25 - 44 years	180	4.9
45 - 64 years	180	4.2
65 + years	92	3.2
Employed/Self-Employed	159	4.0
Retired	136	3.7

Special Characteristics of the Neighborhood (Question 15)

When asked if there were characteristics about the neighborhood that were special to them, 11 respondents (10.0 percent) answered that there was nothing special about the neighborhood. The responses from those who feel the neighborhood has special characteristics (99 respondents) were relatively consistent. Responses were grouped into the following categories:

Special Characteristics	Number of Responses	% of Total Responses
Family, Neighbors	46	41.8%
Good Location	33	30.0%
Quiet, Peaceful	23	20.9%
My Home, Heritage	17	15.5%
Convenient	16	14.5%
Nothing	11	10.0%
Open Space, Recreation, River	7	6.4%
Safety	7	6.4%
Low Traffic	7	6.4%
Privacy	5	4.5%
Good for Children	5	4.5%
Low Crime, No Trouble	4	3.6%
Community	4	3.6%
Well-Maintained, Clean, High Ownership	3	2.7%
Secluded, Rural Environment	3	2.7%
No Bad Flooding Problems	1	0.9%

This open-ended question allowed respondents to explain, in their own words, why they like their neighborhood and what characteristics they feel are special. Family and neighbors, good location, peacefulness, and my home or heritage were the most common responses. Other interesting responses included: privacy, community, and no bad flood problems.

Concern about Flooding (Question 18)

Of the 109 respondents who answered this question, 48.6 percent were very concerned about future flooding, 34.9 percent were somewhat concerned, and the remaining 16.5 percent were not at all

concerned about flooding. The length of time interviewees have occupied their buildings may affect respondent attitudes about flooding. Of respondents who have occupied their home for 30 or more years, 90.9 percent are somewhat or very concerned about future flooding. Of the respondents who have occupied their structures for less than 30 years, fewer (81.6 percent) indicated they were somewhat or very concerned about flooding. Experience or knowledge of the 1977 flood likely affects concern of residents about future flooding.

Moving Preferences (Question 22)

Of the 110 respondents, 13 respondents were unable to answer this question. Of the 97 respondents who did answer Question 22, 53.6 percent would prefer to stay within the neighborhood or community if they were required to relocate and an additional 35.1 percent would prefer to relocate to another part of Pike County (total of 88.7 percent). Of the remaining respondents, 7.2 percent would prefer to relocate outside of the county, but within the Commonwealth of Kentucky, and 4.1 percent would prefer to move outside of the state.

Major Concerns about Acquisition (Question 23)

When asked about their biggest concerns if their home and property were to be acquired, all respondents identified at least one major concern and many identified more than one. Identifying more than one major concern indicates respondents' overall concern regarding acquisition is high. A majority of respondents identified "getting a fair price for your home and moving expenses" as a major concern. A total of 11 respondents identified other concerns.

Major Concerns about Acquisition	Number of Responses	% of Total Respondents
Fair Price + Moving Expenses	93	84.5%
Finding a Good Neighborhood	80	72.7%
Locating Suitable House/Apt.	61	55.5%
Cost of Purchasing/Financing	37	33.6%
Maintaining Old Friendships	33	30.0%
Finding Good Schools	18	16.4%
Other		
- Assistance from the Corps	3	2.7%
- Distance from Family, School, Job	3	2.7%
- Church to be Active in	1	0.9%
- Hassle of Moving	1	0.9%
- Lost Memories	1	0.9%
- Private School for Granddaughter	1	0.9%
No Concerns	0	0.0%

Flooding Solution Preferences (Question 24)

When asked to choose possible solutions to the local flooding problems, as a whole, respondents agreed that some measure of

flood protection was necessary, although responses were dispersed among the six options provided. Among the respondents, relocating most-frequently flooded structures was the most common response. Respondents were allowed to "check all that apply," thus the total number of responses (156) exceeds the number of respondents (110). Of the 110 respondents, five respondents had no opinion or preference about permanent flood problem solutions.

Preferences for Permanent Flood Problem Solutions	Number of Responses	% of Total Respondents
Relocating Most-Frequently Flooded Structures	47	42.7%
Raise and/or Floodproofing Most-Frequently Flooded Structures	39	35.5%
Channel Modifications to Reduce Flood Levels	35	31.8%
Permanent New Floodwalls & Levees	30	27.3%
Flood Insurance & Floodplain Zoning	20	18.2%
Present City Levees, Combined with Emergency Flood Fighting & Flood Forecasting	14	12.7%
No Opinion	5	4.5%
Other		
- River Filling In - Dredge River/Clean River Banks	7	6.4%
- Fix Drainage (Back-up Problem that Traps Residents)	2	1.8%
- Disallow Building Along Riverbank	1	0.9%
- Drain Valve on Floodwall	1	0.9%
- Good Management of Fishtrap Dam	1	0.9%
- Raise Bridge	1	0.9%

Other flood solutions presented by residents included several ideas related to channel modifications, such as: dredge the river, clean the river banks or raise bridges to allow for debris flow.

Conclusions

The number of visits to friends and family per week is a primary indicator of community cohesion. The more connected residents are within the community, measured by the number of visits to friends and family during the week, the more likely they are to stay. An emotional connection to friends and family in the area can also transcend to neighbors. Over 60 percent of respondents indicated that family and neighbors make their neighborhood special. However, when asked what major concerns they had about acquisition, 30.0 percent of respondents considered maintaining old friendships a major concern. Residents were much more concerned about getting a fair price for their home and moving expenses (84.5 percent) and finding a good neighborhood to move to (72.7 percent).

Almost 89 percent of respondents would prefer to stay within their own community/neighborhood or within Pike County if they were required to relocate due to acquisition. This high percentage indicates that a very high level of community cohesion currently exists. Residents want to stay in the area because of the many special neighborhood characteristics they indicated, specifically family, neighbors, location, peacefulness, heritage, and convenience. Residents are also concerned that if their homes are acquired, they may have difficulty finding another suitable neighborhood. For the reasons mentioned above, the Corps should evaluate the need for providing Community Development Sites should suitable relocation sites prove unavailable.

Participation Rate

Raise-in-Place Participation (Question 21A)

When asked about their desire to participate in a raise-in-place floodproofing alternative for their home, one resident was unable to answer this question. Of the remaining 109 respondents, 45.9 percent indicated interest in participating in a raise-in-place floodproofing program. The overall nonstructural raise-in-place participation rate is 43.2 percent.

When data is broken down by age groups, the youngest age group was the most likely to indicate interest in the raise-in-place program. Of residents 25 – 44 years of age, 51.4 percent indicated interest in participating, while 46.5 percent of residents 45 – 64 years old and 37.9 percent of residents 65 years and older indicated interest. When data is broken down by income levels, residents who earn more than $50,000 were the most likely to indicate interest in participating (61.5 percent). By comparison, 44.7 percent of residents earning less than $25,000 and 45.5 percent of residents earning between $25,000 and $50,000 indicated interest in participating.

Acquisition Participation (Question 21B)

By comparison, when given the second option of being acquired by the Government, 68.2 percent of respondents were willing to participate. The overall nonstructural acquisition participation rate is 67.5 percent.

When data is broken down by age groups, residents 45 – 64 years of age were the most likely to indicate interest in the acquisition program (72.1 percent). Of residents 25 – 44 years of age, 62.2 percent indicated interested in participating, while 69.0 percent of residents 65 years and older indicated interest. When data is broken down by income levels, residents who earn between $25,000 and $50,000 were the most likely to indicate interest in participating (86.4 percent). By comparison, 60.5 percent of residents earning less than

$25,000 and 61.5 percent of residents earning greater than $50,000 indicated interest in participating.

Participation appears to be more likely among residential, nonstructural survey respondents than nonresidential; 16.4 percent of respondents indicated they would not participate in either program, while 30.0 percent would participate in either the raise-in-place or acquisition program.

Conclusions

Participation rates are difficult to determine accurately due to the number of influences which contribute to this kind of decision. In addition, a respondent may change their mind once, if not several times, after gathering all pertinent information and further evaluating options. Participation rates may also vary due to community cohesion – if a group of residents is willing to participate, this may influence others who are undecided to participate as well. The information gathered during the personal interviews may vary from final participation rates, but it does provide a benchmark and indicates willingness to participate in the nonstructural program.

In general, respondents were much more interested in participating in an acquisition program than a floodproofing program. If alternative development sites were not available in the same community, acquisition participation rates may vary.

Overall Nonstructural Area Existing Community Cohesion

As discussed earlier, the measurement of community cohesion is relatively difficult to determine and not always precise due to difficulties in measuring opinions and preferences. The following will provide information about the nonstructural area's overall existing community cohesion.

Term of Occupancy

The average term of occupancy for residential survey respondents is 16.5 years and the average term for nonresidential survey respondents is 13.3 years. All nonstructural survey respondents have occupied their structure for an average of 15.8 years. Longer terms of occupancy tend to increase community cohesion – neighborhoods and commercial areas are more stable. The high average term of occupancy among nonstructural survey respondents indicates a high level of community cohesion.

Frequency of Visits

The average number of visits to friends and family per week confirms a moderate level of community cohesion. Residential survey respondents reported visiting 4.7 times per week, which equates to visiting more than every other day. The more connections and contacts residents have in an area, the more likely they are to remain even if required to relocate. They may also have some effect on participation in floodproofing programs.

Number of Families with Children

The survey questionnaire does not specifically ask the number of children per household, although respondent age and number of residents in the household were asked. When comparing the total average household size (2.57 persons) to the average household size of residents younger than 55 years of age, the household size increased to 3.15 among survey respondents. Of those respondents younger than 55 years of age, 65.0 percent of households had more than two residents. If it is assumed that residents 55 years and older do not have children at home, then, of all respondents, 40.9 percent had more than two residents. Presumably those households had at least one child present. Comparatively, in 2000, 36.2 percent of all family households in Pike County had children, 34.9 percent of all family households in Kentucky had children, and 35.5 percent of all family households in the United States had children present.

The presence of children in the household typically promotes community cohesion through the involvement of parents in school

activities, church and community groups. Community cohesion as measured under this criterion appears to be moderate to high.

Rate of Owner-Occupancy

The majority of respondents currently own the structure where they reside or operate their business. Owner-occupancy among the nonresidential respondents is 61.5 percent and among the residential respondents it was even higher at a rate of 87.0 percent. Ownership typically indicates that residents and owner/operators are engaged in their community and value the area enough to purchase property. This connection to the area also confirms a high level of community cohesion.

Employment Status

Employment status is important in considering community cohesion because community ties are typically stronger when a person is employed in the area. The workplace can be a place of socializing as well as lead to other social activities. Retirees also tend to socialize more with other retirees and often with other retirees of the same industry or employer because they have common bonds. Survey results show that 83.5 percent of respondents are employed, retired, or disabled. A small percentage of respondents were unemployed (2.8 percent) compared to 4.0 percent of Pike County's population over the age of 16 in 2000. The unemployment rate for survey respondents (unemployed percentage of labor force) is 6.5 percent compared to 9.0 percent for the county as a whole in 2000. In 2000, adjacent counties averaged an unemployment rate of 9.8 percent.

Respondents also reported traveling an average of 81.9 miles to work. When one respondent who travels 2,700 miles is removed from the sample, all other respondents averaged traveling 18 miles to work compared to an average between 25.0 and 28.9 miles for Pike County in 2000. Consideration of the employment criterion indicates a moderate level of community cohesion.

Relocation Preference

If required to relocate, 88.7 percent of residential survey respondents indicated they would prefer to stay in their current community/neighborhood or within Pike County. Nonresidential survey respondents were also interested in staying in their current community/neighborhood or within Pike County (86.7 percent). These high rates indicate a very high level of community cohesion. Residents and owner/operators want to stay close to friends and family, whom they visit frequently, want to maintain schools for their children, want to remain in a safe and peaceful neighborhood, and want to maintain their businesses.

Special Characteristics of the Neighborhood

Several of the nonstructural survey respondents listed special characteristics of the neighborhood that imply a significant level of community cohesion. The following percentages are for all nonstructural respondents. A total of 38.1 percent of respondents indicated people (friends, family or customers) made the neighborhood or location special, 13.5 percent of respondents indicated that their home or heritage was special, 3.2 percent of respondents indicated that a sense of community made the neighborhood special. In addition, maintaining relationships if acquisition by the Government were required was a major concern for 34.9 percent of respondents. Although not the most frequently cited special characteristics or concerns about acquisition, it is apparent that connections, contacts, stability, heritage, and a sense of community currently exist and these are elements that are important for respondents.

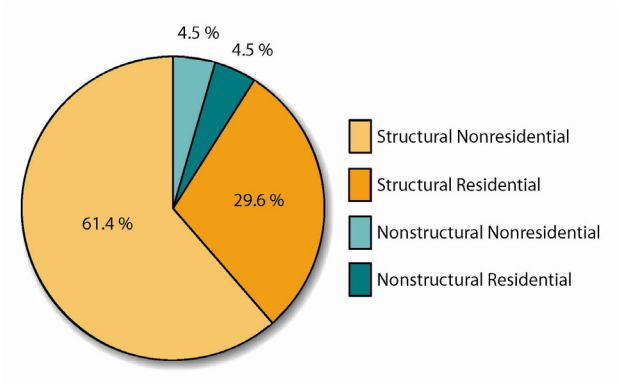
Although geographically dispersed along the Levisa and Russell Fork Rivers, community cohesion of the nonstructural areas is moderately high.

Coal Run and North Pikeville Area Survey Results and Community Cohesion

Coal Run Area

Of the 65 structures identified for surveying by the Corps for the Coal Run area, respondents from 38 structures (58.5 percent) participated in personal interviews and a total of 44 questionnaires were completed. As mentioned earlier, two nonresidential structures within Coal Run were occupied by more than one tenant, therefore, the Contractor attempted to complete a personal interview with all occupants. A total of 8 surveys were completed among these two multi-tenant structures.

Of the 44 questionnaires completed, nonresidential responses accounted for 65.9 percent (29 responses) and residential responses accounted for the remaining 34.1 percent (15 responses). Of the 44 questionnaires completed, structural responses accounted for 90.9 percent (40 responses) and nonstructural responses accounted for 9.1 percent (4 responses).



Structures and Flooding

Occupied Tenure, Ownership and Age of Structure

Of all Coal Run respondents, a majority has occupied their structures for less than ten years (59.1 percent) and the average term of occupancy is 13.2 years.

The average age of all structures, as reported, is 25.7 years, with a range between 1 year and 60 years. Five respondents were unable to answer this question, thus, the average was figured based on 39 respondents.

A total of 61.4 percent of structures are owner-occupied, either as residential units, businesses or churches. An additional 4.5 percent own their structure, but lease the property where the structure is built. Among residential structures in Coal Run, 93.3 percent are owner-occupied, which is significantly higher than among all housing units in Pike County.

Knowledge about Flooding, Flood Insurance, Number of Times Experienced Flooding and Experiences as a Result of Flooding

Of the 44 respondents, two were unable to say whether they would have moved or purchased their structure if they had been aware of flooding problems. Of the 42 who were able to answer, 31 answered in the affirmative - that they would have moved to the location even if they knew it could be flooded (73.8 percent). Several respondents said they were aware of the possibility, but chose to move there despite the chance of flooding. The remaining 11 respondents answered in the negative – that they would not have moved to the location if they had been aware of the possibility of flooding (26.2 percent).

According to respondents, 55.3 percent currently pay for flood insurance, while 44.7 percent do not. Six respondents were unable to answer this question; therefore, the percentages presented above are based on 38 responses.

Only 34.1 percent of Coal Run respondents indicated that they have experienced flooding while occupying their current location.
Eight respondents reported flooding once in the past (18.2 percent) and another seven respondents reported flooding twice during their occupancy of the building (15.9 percent).

Of the 15 respondents who have experienced flooding, 93.3 percent experienced flood damages, 80.0 percent experienced lost work days and wages, 80.0 percent experienced dislocation from work, 53.3 percent experienced children missing school days or employees missing work, and only 7.1 percent had medical expenses related to flooding.

Conclusions

Length of structure occupancy and owner-occupancy are both indicators of community cohesion. Over half of the structures in Coal Run have been occupied by the interviewee for less than ten years, although the average term of occupancy is 13.2 years. Owner-occupancy is much higher among residential structures in Coal Run (93.3 percent) than among all housing units in Pike County (70.3 percent in 2000). Owner-occupancy among nonresidential structures is much lower at 44.8 percent. These statistics indicate a moderate level of community cohesion in the Coal Run area. Cohesiveness among the residential areas is stronger than among the nonresidential area.

Feelings and Concerns about the Community and Flooding

Number of Visits to Friends/Family per Week

Among the residential surveys completed for the Coal Run area (15 responses), respondents reported visiting with friends and family in the area an average of 3.5 times per week. The number of visits per week varied from 1 to 14 times.

Special Characteristics of the Neighborhood

When asked if there were characteristics about the neighborhood that were special to them, five respondents (11.4 percent) answered that there was nothing special about the neighborhood. The responses from those who feel the neighborhood has special characteristics (39 respondents) are listed below.

This open-ended question allowed respondents to explain, in their own words, why they like their neighborhood and what characteristics they feel are special. Among Coal Run respondents good accessibility, good location, people (family, neighbors, or customers), and convenience were among the most common responses. Because the Coal Run responses are a combination of residential and nonresidential surveys, some responses have a much lower percentage when compared to strictly one category of survey responses. For example, among all Coal Run respondents "good accessibility, high traffic volume and visibility" was mentioned as a special characteristic by 40.9 percent of respondents. By comparison, among nonresidential structural or nonresidential nonstructural respondents, a much higher percentage of respondents identified it as a special characteristic (60.0 percent and 62.5 percent, respectively).

Special Characteristics	Number of Responses	% of Total Responses
Good Accessibility, High Traffic Volume, Visibility	18	40.9%
Good Location	15	34.1%
People (Family, Neighbors, Customers)	10	22.7%
Convenient	8	18.2%
Quiet, Peaceful	5	11.4%
Nothing	5	11.4%
Safety	4	9.1%
My Home or My Business	2	4.5%
Room for Expansion	2	4.5%
Open Space	2	4.5%
Low Traffic	2	4.5%
Well-Maintained	1	2.3%
Good for Children	1	2.3%
Affordable	1	2.3%

Concern about Flooding

When asked about future flooding concerns, 22.7 percent of Coal Run respondents were very concerned about future flooding, 52.3 percent were somewhat concerned, and the remaining 25.0 percent were not at all concerned about flooding.

Respondents in the Coal Run area are significantly more concerned about future flooding than North Pikeville respondents. A total of 75.0 percent of respondents are very or somewhat concerned in Coal Run, whereas only 50.0 percent of North Pikeville respondents are very or somewhat concerned about future flooding.

Feelings and Major Concerns about Acquisition

When asked about their structure being acquired by the Government, 52.5 percent of respondents in Coal Run either support or strongly support acquisition. By comparison, 20.0 percent of respondents either oppose or strongly oppose acquisition, and 27.5 percent had no opinion.

Major concerns about being acquired by the Government were reported by 97.7 percent of Coal Run respondents. "Getting a fair price and moving expenses" was the most common response when asked to identify major concerns.

Major Concerns about Acquisition	Number of Responses	% of Total Respondents
Fair Price + Moving Expenses	36	81.8%
Finding a Good Neighborhood or Location	31	70.5%
Cost of Re-Establishing Business or Purchasing Home	27	61.4%
Finding Suitable Home or Building	23	52.3%
Maintaining Relationships	16	36.4%
Other	9	20.5%
Finding Good Schools	1	2.3%
No Concerns	1	2.3%

Other concerns included: moving (3 responses); loss of income during a move; finding a new location with adequate parking and expansion area; finding a new location that is suitable and affordable; provision for a disabled family member; having enough advance notice and information to make good decisions; and having enough advance notice to build a new home. All responses listed above were mentioned by one respondent unless noted. Only one respondent in Coal Run reported having no concerns about acquisition.

Moving Preferences

When asked about their moving preferences if the Government acquired their structure, two respondents were undecided about where they would move, and therefore did not answer the question. Of the 42 respondents who did answer, 83.3 percent would prefer to stay within the neighborhood or community if they were required to relocate. Five respondents would prefer to relocate to another part of Pike County (11.9 percent), and two respondents would prefer to relocate outside of the county, but within the Commonwealth of Kentucky (15.4 percent). No respondents indicated interest in moving outside of the state or in closing their businesses.

Major Concerns about Floodwall or Levee

When asked about major concerns about a new levee or floodwall being built near their home, as a group, Coal Run respondents indicated that safety during floods was their biggest concern (45.5 percent). Of the 44 survey respondents, two had no major concerns about a floodwall or levee. Respondents were allowed to "check all that apply," thus the total number of responses (93) exceeds the number of respondents (44).

Major Concerns about Floodwall or Levee	Number of Responses	% of Total Respondents
Safety During Floods	20	52.6%
Appearance	14	36.8%
Impact on Activities Around Home or Business	14	36.8%
Impact on Property Value	13	34.2%
Distance from Residence or Business	12	31.6%
Type of Construction	12	31.6%
Other Concerns	8	21.1%
Visibility from Residence or Business	5	13.2%
No Concerns	1	2.6%

Other concerns included: impacts on parking (3 responses); construction impacts (3 responses); recreation areas lost (1 response); and downstream flooding (1 response).

Flooding Solution Preferences

When asked to choose possible solutions to the local flooding problems, Coal Run respondents agreed that some measure of flood protection was necessary. Some Coal Run residents were aware of the "short-optimized" floodwall alignment as presented by the Corps during a public meeting that occurred prior to the surveying. Several residents questioned the location of the floodwall and why it did not protect all of Coal Run, including the Scott Addition (upstream) and the commercial area north of K-Mart (downstream).

Of the 44 respondents, most considered permanent new floodwalls and levees to be a good solution to the local flood problems. Four respondents did not answer the question, stating that they either did not feel qualified to answer or they had no opinion. Respondents were allowed to "check all that apply," thus the total number of responses (129) exceeds the number of respondents (44). Other options presented by respondents included operating the reservoir at an appropriate level to protect downstream structures from flooding, erosion control, and constructing another reservoir in the area.

Preferences for Permanent Flood Problem Solutions	Number of Responses	% of Total Respondents
Permanent New Floodwalls & Levees	30	71.4%
Flood Insurance & Floodplain Zoning	21	50.0%
Raise and/or Floodproofing Most-Frequently Flooded Structures	20	47.6%
Channel Modifications to Reduce Flood Levels	17	40.5%
Relocating Most-Frequently Flooded Structures	17	40.5%
Present City Levees, Combined with Emergency Flood Fighting & Flood Forecasting	17	40.5%
No Opinion	4	9.5%
Other		
- Operation Reservoirs to Protect	1	2.4%
- Erosion Control	1	2.4%
- Another Reservoir	1	2.4%

Conclusions

The number of visits to friends and family per week is a primary indicator of community cohesion. The more connected residents are within the community, measured by the number of visits to friends and family during the week, the more likely they are to remain in the area. On average, residents of Coal Run visited friends and family 3.5 times per week, compared to 4.5 for all residential structures surveyed. While Coal Run residents reported visiting less often than other survey respondents, their visitation frequency still represents a moderate level of community cohesion.

Good accessibility and high traffic volume, good location and people were the top responses among Coal Run respondents when asked what made the neighborhood special. Coal Run represents a good mixture of residential and nonresidential structures that provides an excellent location for businesses (high accessibility, visibility and traffic volume) and residents (convenient to local businesses and amenities). When asked what major concerns they had about Government acquisition, few respondents considered maintaining old friendships a major concern. Residents were much more concerned about getting a fair price for their home or business and moving expenses (81.8 percent) and finding a good neighborhood or location to move to (70.5 percent).

When asked about moving preferences, approximately 95 percent of respondents would prefer to stay within their own neighborhood or within Pike County if they were required to relocate due to acquisition. This high percentage indicates that a very high level of community cohesion currently exists. Residents want to stay in the

area because of the many special neighborhood characteristics they noted.

Participation Rate

Raise-in-Place Participation

When asked about their desire to participate in a raise-in-place floodproofing alternative for their home or business, one resident was unable to answer this question. Of the remaining 43 respondents, less than half (48.8 percent) indicated interest in participating in a raise-in-place floodproofing program.

Acquisition Participation

When given the option of being acquired by the Government, one resident was unable to answer this question. Of the remaining 43 respondents, 65.1 percent of respondents were willing to participate in an acquisition program.

Conclusions

As discussed earlier, participation rates are difficult to determine accurately due to the number of influences which contribute to this kind of decision. A low participation rate for the raise-in-place program is not surprising. A majority of all Coal Run responses were among nonresidential structures, and respondents from all nonresidential structures were less likely to say they would participate in a raise-in-place floodproofing program (only 37.0 percent said they would participate). The raise-in-place floodproofing option is problematic for some nonresidential structures – owners or operators were concerned about customers or elderly church parishioners being physically able to climb stairs if the structure was raised. A much higher rate of participation was reported for the acquisition program.

While total Coal Run participation rates are important, Coal Run nonstructural survey responses may be more indicative of participation in either program (4 respondents). Among this group, as derived from the survey data, 50.0 percent indicated they would be interested in participating in a raise-in-place program and 50.0 percent indicated they would be interested in participating in an acquisition program. While four responses may indicate a small sample size, it represents one-third of the structures identified by the Corps for surveying.

Overall Existing Community Cohesion

Again, the measurement of community cohesion is relatively difficult to determine and not always precise due to difficulties in measuring opinions and preferences. The following will provide information about Coal Run's overall existing community cohesion.

Term of Occupancy

The average term of occupancy for all Coal Run respondents is 13.2 years. Longer terms of occupancy tend to increase community cohesion – neighborhoods and commercial areas are more stable. The high average term of occupancy among nonstructural survey respondents indicates a high level of community cohesion.

Frequency of Visits

The average number of visits to friends and family per week confirms a moderate level of community cohesion. Residential survey respondents reported visiting 3.5 times per week, which equates to visiting every other day. The more connections and contacts residents have in an area, the more likely they are to remain even if required to relocate. They may also have some effect on participation in floodproofing programs.

Number of Families with Children

The survey questionnaire does not specifically ask the number of children per household, although respondent age and number of residents in the household were asked. When comparing the total average household size in Coal Run (2.20 persons) to the average household size of residents younger than 55 years of age, the household size increased to 2.86 among survey respondents. Of those respondents younger than 55 years of age, 57.1 percent had more than two residents. If it is assumed that residents 55 years and older do not have children at home, then, of all respondents, 26.7 percent had more than two residents. Presumably those households had at least one child present. Comparatively, in 2000, 36.2 percent of all households in Pike County had children, 34.9 percent of all households in Kentucky had children, and 35.5 percent of all households in the United States had children present.

The presence of children in the household typically promotes community cohesion through the involvement of parents in school activities, church and community groups. Community cohesion as measured under this criterion appears to be low to moderate.

Rate of Owner-Occupancy

The majority of respondents currently own the structure where they reside or operate their business. Owner-occupancy among the

nonresidential respondents in Coal Run was 44.8 percent and among the residential respondents it was even higher at a rate of 93.3 percent. Ownership typically indicates that residents and owner/operators are engaged in their community and value the area enough to purchase property. This connection to the area also confirms a high level of community cohesion.

Employment Status

Employment status is important in considering community cohesion because community ties are typically stronger when a person is employed in the area. The workplace can be a place of socializing as well as lead to other social activities. Retirees also tend to socialize more with other retirees and often with other retirees of the same industry or employer because they have common bonds. Survey results show that 80.0 percent of respondents are employed, retired, or disabled. No respondents in Coal Run were unemployed. The unemployment rate for the county as a whole in 2000 was 9.0 percent. In 2000, adjacent counties averaged an unemployment rate of 9.8 percent. Respondents also reported traveling an average of 10.4 miles to work compared to an average of between 25.0 and 28.9 miles for Pike County in 2000. Consideration of the employment criterion indicates a high level of community cohesion.

Relocation Preference

If required to relocate, 95.2 percent of Coal Run survey respondents indicated they would prefer to stay in their current community/neighborhood or within Pike County. This high rate indicates a very high level of community cohesion. Residents and owner/operators want to stay close to friends and family, whom they visit frequently, want to maintain schools for their children, want to remain in a safe and peaceful neighborhood, and want to maintain their businesses.

Special Characteristics of the Neighborhood

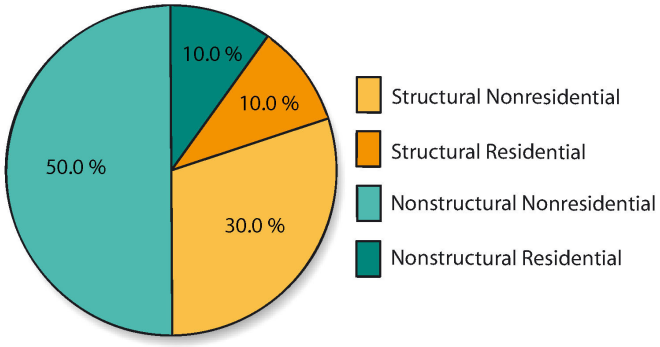
Several of the survey respondents listed special characteristics of the neighborhood that imply a significant level of community cohesion. A total of 22.7 percent of respondents indicated people (friends, family or customers) made the neighborhood or location special, and 4.5 percent of respondents indicated that their home or heritage was special. In addition, maintaining relationships if acquisition by the Government were required was a major concern for 36.4 percent of respondents. It is apparent that connections, contacts, stability, and heritage exist and these are elements that are important for respondents.

Overall community cohesion of the Coal Run area is high.

North Pikeville Area

Of the 19 structures identified for surveying by the Corps for the North Pikeville area, respondents from nine structures (47.4 percent) participated in personal interviews and a total of ten questionnaires were completed. Again, one nonresidential structure within the North Pikeville area was occupied by more than one tenant, therefore, the Contractor attempted to complete a personal interview with all occupants. Two surveys were completed among the multi-tenant structure.

Of the ten questionnaires completed, nonresidential responses accounted for 80.0 percent (8 responses) and residential responses accounted for the remaining 20.0 percent (2 responses). Of the ten questionnaires completed, structural responses accounted for 40.0 percent (4 responses) and nonstructural responses accounted for 60.0 percent (6 responses).



Structures and Flooding

Occupied Tenure, Ownership and Age of Structure

Of all North Pikeville respondents, half have occupied their structures for less than ten years and the average term of occupancy is 12.8 years. Terms of occupancy varied from 3 months to 28 years.

The average age of all structures, as reported, is 26.9 years, with a range of 6 to 45 years. One respondent was unable to answer this question, thus, the average was figured based on nine respondents.

A total of 80.0 percent of structures are owner-occupied, either as residential units or businesses. Both residential structures in North Pikeville where a survey was completed are owner-occupied (100 percent), which is significantly higher than among all housing units in Pike County.

Knowledge about Flooding, Flood Insurance, Number of Times Experienced Flooding and Experiences as a Result of Flooding

Of the ten respondents, eight answered in the affirmative - that they would have moved to the location even if they had known it could be flooded (80.0 percent). The remaining two respondents answered in the negative – that they would not have moved to the location if they had been aware of the possibility of flooding (20.0 percent).

According to respondents, 75.0 percent currently pay for flood insurance, while 25.0 percent do not. Two respondents were unable to answer this question; therefore, the percentages presented above are based on eight total responses.

Only 30.0 percent of North Pikeville respondents indicated that they have experienced flooding while occupying their current location. One respondent reported flooding once in the past (10.0 percent), one respondent reported experiencing flooding twice, and one respondent reported experiencing flooding four times during occupancy of their structure. The remaining 70.0 percent have never experienced flooding while occupying their current location.

Of the three respondents who have experienced flooding, 66.7 percent experienced flood damages, 66.7 percent experienced children missing school days or employees missing work, 33.3 percent experienced lost work days and wages, 33.3 percent experienced dislocation from work, and none had any medical expenses related to flooding.

Conclusions

Length of structure occupancy and owner-occupancy are both indicators of community cohesion. Half of the structures in North Pikeville have been occupied by the interviewee for less than ten years, although the average term of occupancy is 12.8 years. Owner-occupancy rates are high within the North Pikeville area. These statistics indicate a moderate level of community cohesion in the North Pikeville area.

Feelings and Concerns about the Community and Flooding

Number of Visits to Friends/Family per Week

Only two residential surveys were completed for the North Pikeville area; these respondents reported visiting with friends and family in the area an average of 7.0 times per week (once per day). The number of visits per week varied from 4 to 10 times. Because only two responses are available, the average presented above could be skewed.

Special Characteristics of the Neighborhood

When asked if there were characteristics about the neighborhood that were special to them, one respondent (10.0 percent) answered that there was nothing special about the neighborhood. The responses from those who feel the neighborhood has special characteristics (9 respondents) are listed below.

This open-ended question allowed respondents to explain why they like their neighborhood and what characteristics they feel are special. Among North Pikeville respondents good accessibility, good location, and business opportunities or ownership were among the most common responses. Similar to the Coal Run responses, the North Pikeville responses are a combination of residential and nonresidential surveys; some responses have a much lower percentage when compared to strictly one category of survey responses. For example, among all North Pikeville respondents "good accessibility, high traffic volume and visibility" was mentioned as a special characteristic by 40.0 percent of respondents. By comparison, among all nonresidential structural or all nonresidential nonstructural respondents, a much higher percentage of respondents identified it as a special characteristic (60.0 percent and 62.5 percent, respectively).

Special Characteristics	Number of Responses	% of Total Responses
Good Accessibility, High Traffic Volume, Visibility	4	40.0%
Good Location	3	30.0%
Business Opportunity, Ownership	2	20.0%
Convenient	1	10.0%
People (Family, Neighbors, Customers)	1	10.0%
Open Space	1	10.0%
Safety	1	10.0%
Low Traffic	1	10.0%
Nothing	1	10.0%

Concern about Flooding

When asked about future flooding concerns, 20.0 percent of North Pikeville respondents were very concerned about future flooding, 30.0 percent were somewhat concerned, and the remaining 50.0 percent were not at all concerned about flooding.

Respondents in North Pikeville are significantly less concerned about future flooding than Coal Run respondents. A total of 75.0 percent of respondents are very or somewhat concerned in Coal Run, whereas only 50.0 percent of North Pikeville respondents are very or somewhat concerned about future flooding.

Feelings and Major Concerns about Acquisition

When asked about their structure being acquired by the Government, only 25.5 percent of structural survey respondents in North Pikeville said they "strongly support" acquisition. By comparison, 50.0 percent of respondents "strongly oppose" acquisition and 25.0 percent had no opinion. There were no responses for "support" or "oppose" acquisition among the North Pikeville area.

Major concerns about being acquired by the Government were reported by all North Pikeville respondents. "Finding a good neighborhood or location" was the most common response when asked to identify major concerns. No respondent mentioned other concerns.

Major Concerns about Acquisition	Number of Responses	% of Total Respondents
Finding a Good Neighborhood or Location	9	90.0%
Fair Price + Moving Expenses	7	70.0%
Finding Suitable Home or Building	6	60.0%
Cost of Re-Establishing Business or Purchasing Home	5	50.0%
Maintaining Relationships	5	50.0%
Finding Good Schools	0	0.0%
Other Concerns	0	0.0%
No Concerns	0	0.0%

Moving Preferences

When asked about their moving preferences if the Government acquired their structure, 80.0 percent would prefer to stay within the neighborhood or community if they were required to relocate. One respondent would prefer to relocate outside of the county, but within the Commonwealth of Kentucky (10.0 percent), and one respondent would close their business (10.0 percent). No respondents indicated interest in moving to other areas of Pike County or outside the state.

Major Concerns about Floodwall or Levee

When asked about major concerns about a new levee or floodwall being built near their home, as a group, North Pikeville structural survey respondents indicated that distance from their business or residence was their biggest concern (75.0 percent). Respondents were allowed to "check all that apply," thus the total number of responses (9) exceeds the number of respondents (4).

Major Concerns about Floodwall or Levee	Number of Responses	% of Total Respondents
Distance from Residence or Business	3	75.0%
Safety During Floods	2	50.0%
Impact on Activities Around Home or Business	2	50.0%
Other Concerns	2	50.0%
Visibility from Residence or Business	0	0.0%
Appearance	0	0.0%
Type of Construction	0	0.0%
Impact on Property Value	0	0.0%
Visibility from Residence or Business	0	0.0%
No Concerns	0	0.0%

Other concerns included: recreation areas lost (1 response); and safety of children playing near the wall (1 response).

Flooding Solution Preferences

When asked to choose possible solutions to the local flooding problems, channel modifications to reduce flood levels was mentioned twice by the five respondents who were asked this question. Two respondents did not answer the question, stating that they either did not feel qualified to answer or had no opinion. Respondents were allowed to "check all that apply," thus the total number of responses (7) exceeds the number of respondents (5). No other options were presented by respondents in North Pikeville.

Preferences for Permanent Flood Problem Solutions	Number of Responses	% of Total Respondents
Channel Modifications to Reduce Flood Levels	2	40.0%
No Opinion	2	40.0%
Permanent New Floodwalls & Levees	1	20.0%
Present City Levees, Combined with Emergency Flood Fighting & Flood Forecasting	1	20.0%
Relocating Most-Frequently Flooded Structures	1	20.0%
Raise and/or Floodproofing Most-Frequently Flooded Structures	0	0.0%
Flood Insurance & Floodplain Zoning	0	0.0%
Other	0	0.0%

Conclusions

Typically the number of visits to friends and family per week is a primary indicator of community cohesion; however, data in North Pikeville is not sufficient to support a conclusion.

Good accessibility and high traffic volume, good location, and business opportunity and ownership were the top responses among

North Pikeville respondents when asked what made the neighborhood special. The North Pikeville area is also a good mixture of residential and nonresidential structures, providing an excellent location for businesses (high accessibility, visibility and traffic volume from US 23/80/460) and residents (convenient to local businesses and Pikeville High School).

When asked what major concerns they had about Government acquisition, residents were the most concerned with finding a good neighborhood or location to move to (90.0 percent) and getting a fair price for their own home or business and moving expenses (70.0 percent). Half of all North Pikeville respondents considered maintaining established relationships a major concern. Such a high concern for maintaining relationships indicates high community cohesion.

When asked about moving preferences, 80.0 percent of respondents would prefer to stay within their own neighborhood or community if they were required to relocate due to acquisition. This high percentage indicates that a high level of community cohesion currently exists; residents want to stay in the area because of the many special neighborhood characteristics.

Participation Rate

Raise-in-Place Participation

When asked about their desire to participate in a raise-in-place floodproofing alternative for their home or business, 40.0 percent indicated interest in participating.

The raise-in-place floodproofing option is problematic for some nonresidential structures in North Pikeville, specifically, the car dealership and Yamaha dealership (although both indicated they would participate in a raise-in-place floodproofing program). Issues with moving inventory and preventing flood damages would persist unless the entire site was raised.

Acquisition Participation

When given the option of being acquired by the Government, five respondents (50.0 percent) indicated they were willing to participate and one respondent indicated that they may be interested in participating, but were undecided (10.0 percent).

Conclusions

As discussed earlier, participation rates are difficult to determine accurately due to the number of influences which contribute to this kind of decision. Low interest, as indicated by the interviewees, may be difficult to overcome and may lead to other respondents choosing

not to participate due to the community cohesion of the area. The information gathered during the personal interviews may vary from final participation rates, but it does provide a benchmark and indicates willingness to participate in the nonstructural program. When asked to identify good flood solutions from a list of options, not one respondent thought that raising or floodproofing most frequently flooded structures was a good solution.

While total North Pikeville participation rates are important, probably more indicative of participation in either program can only be illustrated by the North Pikeville nonstructural surveys (6 respondents). Among this group, as derived from the survey data, 33.3 percent indicated they would be interested in participating in a raise-in-place program; 33.3 percent indicated they would be interested in participating in an acquisition program; and another 16.7 percent said they may be interested, but are uncertain about participating in an acquisition program.

While six responses would indicate a small sample size, it represents 60 percent of the structures identified by the Corps for surveying.

Overall Existing Community Cohesion

As discussed earlier, the measurement of community cohesion is relatively difficult to determine and not always precise due to difficulties in measuring opinions and preferences. The following will provide information about North Pikeville's overall existing community cohesion.

Term of Occupancy

The average term of occupancy for all North Pikeville respondents is 12.8 years. Longer terms of occupancy tend to increase community cohesion, thus making neighborhoods and commercial areas more stable. The high average term of occupancy among nonstructural survey respondents indicates a high level of community cohesion.

Frequency of Visits

The average number of visits to friends and family per week indicates a high level of community cohesion, although these two respondents may not accurately represent other residential respondents in North Pikeville. Residential survey respondents reported visiting 7.0 times per week, which equates to visiting once every day. The more connections and contacts residents have in an area, the more likely they are to remain in the area even if required to relocate.

Number of Families with Children

The survey questionnaire does not specifically ask the number of children per household, although respondent age and number of residents in the household were asked. Both respondents were

younger than 55 years of age, thus the total average household size for North Pikeville (2.50 persons) is the same as the average household size of residents younger than 55 years of age. One respondent (50.0 percent) said their household had more than two residents and presumably the household has at least one child present. Comparatively, in 2000, 36.2 percent of all households in Pike County had children, 34.9 percent of all households in Kentucky had children, and 35.5 percent of all households in the United States had children present.

The presence of children in the household typically promotes community cohesion through the involvement of parents in school activities, church and community groups. Community cohesion based upon number of families with children is considered to be moderate.

Rate of Owner-Occupancy

The majority of respondents currently own the structure where they reside or operate their business. Owner-occupancy among the nonresidential respondents is 75.0 percent and among the residential respondents it was even higher at a rate of 100.0 percent. Ownership typically indicates that residents and owner/operators are engaged in their community and value the area enough to purchase property. This connection to the area also confirms a high level of community cohesion.

Employment Status

Employment status is important in considering community cohesion because community ties are typically stronger when a person is employed in the area. The workplace can be a place of socializing as well as lead to other social activities. Retirees also tend to socialize more with other retirees and often with other retirees of the same industry or employer because they have common bonds. Survey results show that both respondents are employed.

Respondents also reported traveling an average of 2.5 miles to work compared to an average of between 25.0 and 28.9 miles for Pike County in 2000. Consideration of the employment criterion indicates a high level of community cohesion.

Relocation Preference

If required to relocate, 80.0 percent of North Pikeville survey respondents indicated they would prefer to stay in their current community/neighborhood or within Pike County. This high rate indicates a very high level of community cohesion. Residents and owner/operators want to stay close to friends and family, whom they visit frequently, want to maintain schools for their children, want to remain in a safe and peaceful neighborhood, and want to maintain their businesses.

Special Characteristics of the Neighborhood

Only one North Pikeville survey respondent listed special characteristics of the neighborhood that imply strong community cohesion. The respondent indicated that people (friends, family or customers) made the neighborhood or location special. However, maintaining relationships if acquisition by the Government were required was a major concern for 50.0 percent of respondents. Although not the most frequently cited special characteristic or concern about acquisition, it appears that relationships are an important characteristic for respondents.

Overall community cohesion of the North Pikeville area is moderate to high.

STUDY KNOWLEDGE AND PUBLIC INVOLVEMENT

While collecting data for the community cohesion and social impact analysis, the Corps also included two questions at the end of each questionnaire that addressed the public's knowledge about the study and how they would like to be kept informed in the future.

Receiving Enough Information

Among all survey respondents, 59.4 percent said they are not receiving enough information to satisfy their interests, 39.4 percent said they are receiving enough information, and 1.2 percent of respondents were unable to answer the question. When comparing structural survey responses to nonstructural survey responses, the rates vary slightly. A majority of nonstructural survey respondents are not receiving enough information about the study (63.8 percent), and many indicated that the community cohesion survey was the first they had heard of the study. By comparison, half of structural survey respondents are not receiving enough information. This slightly lower rate may be attributed to previous contact by the Corps or Corps contractors. Some respondents noted they gathered information about the study and potential for a floodwall and levee by speaking with survey crews during the year.

Preferences about Public Involvement

When asked how respondents would like to be kept informed about the study, most preferred communication via printed materials. Among all survey respondents:

- 51.2 percent would like to be kept informed via newspaper;
- 47.1 percent would like to be kept informed via brochures;
- 31.8 percent would like to be kept informed via public meetings;
- 23.5 percent would like to be kept informed via radio or television;
- 18.2 percent would like to be kept informed via direct mail; and
- 4.7 percent would like to be kept informed via face-to-face personal contact.

Among structural survey respondents, the newspaper was the most common answer (65.9 percent). Among nonstructural survey respondents, a majority would like to receive information via a brochure (54.8 percent).

Among respondents that are willing to participate in the raise-in-place method of floodproofing their home and property:

- 53.3 percent would like to be kept informed via newspaper;
- 45.3 percent would like to be kept informed via brochures;

- 28.0 percent would like to be kept informed via some other method;
- 26.7 percent would like to be kept informed via public meetings;
- 21.3 percent would like to be kept informed via radio or television; and
- 18.7 percent would like to be kept informed via direct mail.

Among respondents that are willing to participate in acquisition of their home and property:

- 50.0 percent would like to be kept informed via brochures;
- 47.3 percent would like to be kept informed via newspaper;
- 30.9 percent would like to be kept informed via public meetings;
- 30.9 percent would like to be kept informed via some other method;
- 25.5 percent would like to be kept informed via radio or television; and
- 19.1 percent would like to be kept informed via direct mail.

Since a majority of respondents would like to be kept informed via printed materials, future public meetings or workshops may experience low attendance as long as information is provided by other methods.

Conclusions

Based upon survey responses, current communications with eligible residential and nonresidential owners are not adequate. Information distribution to potentially affected property owners should be improved. Notices to the county's Judge Executive, Fiscal Court and other leadership organizations may alleviate confusion, uncertainty and misinformation about the study and project.

Preferences for dispersing information took on many forms. A multi-method approach, which the Corps utilizes currently, should be maintained throughout the study and implementation of the project to keep residents informed. Most respondents prefer to receive information through the newspaper, although not all residents can be reached through this media. Although not as popular among respondents, personal contact or public meetings are typically more useful because the Corps can respond directly to comments, questions, and concerns. Direct mail to eligible structures or personal visits may also help to alleviate confusion and misinformation about the project.

Special Community Issues and Concerns

INTRODUCTION

The surveys conducted in Pike County provide a comprehensive view of demographic characteristics, preferences, and feelings. Other information was gathered, both formally and informally, during the planning and survey process which also informed the community cohesion and social impact analysis. Information was gathered from personal interviews by the Government with potentially impacted residents, through public workshops in Pike County, and informally via fieldwork observations. The information gathered is presented below.

Special Community Issues

The following special community issues were identified during fieldwork by the Corps and were confirmed through personal interviews by the Corps. Several community-based facilities are near the proposed floodwall and levee in Coal Run, thus potentially impacting these facilities:

- A church would be affected in Coal Run by the implementation of a floodwall and levee system. The Coal Run Church of Christ is located near the proposed floodwall and levee alignment, and, if constructed as designed, the construction work limits (CWL) would require acquisition of a significant amount of space which is currently utilized for church parking and recreation.
- Medical Clinic in Coal Run is currently constructing a multi-million dollar facility. This facility would be an asset to the community and a destination for many residents in the community, as well as the rest of the county.

Public Workshops

Public workshops were held in late October at three locations in Pike County to facilitate public involvement and provide information about the project. A brochure explaining the Section 202 Program and inviting residents to the three public meetings was mailed to 15,000 households in the Levisa Fork River Basin. In addition, survey interviewers personally invited residents if they had questions during the surveying process. A meeting bulletin was also posted in the Pikeville Appalachian News Express.

During the public workshops, residents viewed examples of floodproofed structures, photo simulations of Coal Run and North Pikeville under flood conditions, and photo simulations of proposed floodwalls in the same areas. Corps representatives were present to address concerns and questions during the workshops.

The following is a summary of written comments from the three public workshops:

- Elderly residents are concerned about nonstructural alternatives, namely the raise-in-place method which would create a physical barrier to continuing to live in the same house.
- Many residents expressed concern about being able to climb stairs because due to their physical condition.
- Residents are concerned about being forgotten along West Helen Avenue in Pikeville. One resident noted that the area had experienced flooding over 20 times.
- Flooding not only causes monetary damages, but physical and emotional stress for residents.
- The widening of the highway at Zebulon to a 4-lane road has changed the hydrology of the area, increasing the high water being backed up into Raccoon Creek. The structures along the creek have noticed increasing frequency of flooding.
- Residents are concerned about relocation benefits and being able to cover their current mortgage costs.
- Residents are concerned about the time schedule and if the Government will help them locate a new property if required to relocate.
- Single span bridges along the river act as a dam during high water and drains for the smaller tributaries are too small.
- Some residents expressed immediate interest in being acquired and called the project a "blessing."
- Residents are concerned about bigger floods. Although the 1977 flood is considered greater than a 500-year flood, there is no guarantee that a greater flood would not occur and damage floodproofed structures.

Fieldwork Observations

While conducting interviews in the project area, interviewers noted a few common concerns that may not have been recorded by the survey questions. The following fieldwork observations were noted by interviewers:

- Commercial areas in Coal Run and North Pikeville repeatedly expressed their need for highway exposure and accessibility. Generally, commercial properties need to be convenient to their customers and located in an accessible and visible area to draw in more customers. There is concern about the availability of suitable development sites in the county.
- Residents expressed a desire for the Corps to come talk to them in person about floodproofing alternatives.

PART 2: COMMUNITY COHESION AND SOCIAL IMPACT ANALYSIS

Alternatives Retained for Detailed Consideration

Several alternatives have been retained for detailed consideration by the Corps. Among the four alternatives, one addresses flood protection by nonstructural means, and three address flood protection through structural means. In Pike County, the structural method of flood protection is a floodwall and levee system applied to two areas – Coal Run and North Pikeville. In Coal Run, two alternatives have been retained for detailed consideration. The four alternatives are briefly described below for reference in this report; however, more detailed descriptions can be obtained from the Government.

Pike County Nonstructural Measures

Under the Section 202 Program, a majority of the eligible structures could be protected by nonstructural methods. Nonstructural flood protection methods include: raise-in-place; move on site; replacement; veneer walls; ringwall/levee; owner replacement (special requirements); or floodplain evacuation (also described as Government acquisition of structure and property). There are an estimated 2,000 structures in the Levisa Fork Basin of Pike County eligible for participation in the Section 202 Program. Of these structures, approximately 1,500 are residential and 500 are nonresidential. Participation in the nonstructural flood protection program is completely voluntary.

Coal Run Optimized Short Floodwall and Levee

The Coal Run optimized short floodwall and levee is designed to protect approximately 100 structures in Coal Run on the west side of US 23/80/460. Structures between the highway and the Levisa Fork River and between the Rax Restaurant and American Electric Power (AEP) would be protected if the optimized short floodwall and levee system is constructed. An exhibit of the Coal Run optimized short floodwall and levee can be found in Appendix D of this report.

Coal Run Long Floodwall and Levee

The Coal Run long floodwall and levee is designed to protect approximately 137 structures in Coal Run on the west side of US 23/80/460. The long floodwall and levee system has the same alignment as the short optimized alignment; however, the long floodwall alignment protects additional structures upstream of AEP. The residential area known as Scott Addition would be protected by the extended Coal Run floodwall alignment. An exhibit of the Coal Run long floodwall and levee can be found in Appendix D of this report.

North Pikeville Optimized Floodwall and Levee

The North Pikeville optimized floodwall and levee is designed to protect approximately 45 structures in an area north of downtown Pikeville along Mayo Trail, the access road along US 23/80/460. Structures between the river and the west side of the highway would be protected if the North Pikeville optimized floodwall and levee system is constructed. The floodwall would cross Mayo Trail to the north of Pikeville High School, thus providing protection to the school as well as several commercial structures and a residential area of approximately 30 structures. An exhibit of the North Pikeville optimized floodwall and levee can be found in Appendix D of this report.

Community Cohesion and Social Impacts of Alternatives

Existing community cohesion within Pike County would be affected by implementation of the Section 202 Program alternatives as presented above. Impacts to community cohesion and the social fabric can be difficult to precisely assess. The following evaluation describes potential social impacts to the existing community cohesion of Pike County, Coal Run and North Pikeville.

Pike County Nonstructural Measures

The following impacts are possible if nonstructural flood protection methods are implemented in areas outside of Coal Run and North Pikeville:

1) The acquisition of structures could produce a higher demand for new development sites for both residential and nonresidential structures within the county. If development sites are not available within the county, a shortage could influence relocation decisions by residents.
2) If a lack of suitable relocation sites exists, the county's population could decline as residents choose to relocate outside of Pike County.
3) Population decline could affect levels of economic development, school enrollment, and service provisions by the county and communities. A decline in population could produce an overall weakening of the social network within the county.
4) Voluntary participation could produce an unusual pattern of development. Acquisition of a structure results in vacant property; acquisition could occur interspersed with other methods of flood protection or non-participation, thus creating irregular development patterns and weakening community cohesion.
5) Irregular development patterns created by voluntary participation could weaken familial ties and interrupt visitation patterns, which in turn could impact community organizations such as churches, schools and civic organizations.

6) If raise-in-place is the only method available for floodproofing, it would present a barrier to the elderly participating in this program because of the concern expressed about being able to climb stairs. Other alternatives to stairs include: ramps; chairlifts; and elevators. For many people chairlifts are undesirable and elevators are cost prohibitive. The third method, ramps, may require more horizontal area than is available on small lots. Where all stair alternatives are not feasible, other floodproofing methods should be made available to ensure high participation rates.

Coal Run Optimized Short Floodwall and Levee

The following impacts are possible if the Coal Run optimized short floodwall and levee system is implemented:

1) The construction work limits (CWL) for the floodwall and levee system will require the acquisition of approximately 14 structures, both residential and nonresidential. This represents 12.3 percent of the existing structures. The loss of 14 structures will weaken the overall fabric of the neighborhood only moderately, because the structures are not concentrated in one area, but geographically distributed along the length of the floodwall.
2) The floodwall and levee will protect approximately 100 structures, both residential and nonresidential. This represents 87.7 percent of existing structures.
3) The CWL will require acquisition of a significant majority of existing parking and open space associated with the Coal Run Church of Christ. If constructed as designed, the floodwall and levee would significantly impact the church's ability to maintain current levels of operation. Additional design options are currently being considered to accommodate the church's parking requirements.
4) The CWL will require acquisition of property adjacent a newly constructed multi-story medical clinic facility. Acquisition of property may prevent further expansion of the facility.
5) Placement of a large gate structure along US 23/80/460 where none existed previously will introduce a new physical element into the environment and may be a visual intrusion.
6) Regional traffic and economic activity along US 23/80/460 will be interrupted when high water causes the closure of the floodwall gate, which crosses the highway. However, it can be assumed that during times of high water, economic activity along the highway may be interrupted anyway.
7) The protected area may cut off areas north of the floodwall, including other parts of Coal Run, from Pikeville and other communities during times of high water and gate closure. This may create several access and public safety issues,

including access to medical services, fire and police services, grocery stores, and schools.

8) Introduction of the floodwall and levee will interrupt historical river access and potential future river access.
9) Introduction of the floodwall and levee will create a new physical barrier between three areas of Coal Run that were previously connected both physically and visually (protected area, Scott Addition upstream and commercial area further downstream). These impacts are not thought to be significant because of the current lack of a local street network between the three areas.
10) Construction of the floodwall and levee system may have potential noise and dust impacts for a day care center located along Church Street in Coal Run. Temporary relocation of the day care center may be required, which may temporarily change local traffic patterns and commute times.

Coal Run Long Floodwall and Levee

The following impacts are possible if the Coal Run long floodwall and levee system is implemented:

1) The CWL for the floodwall and levee will require the acquisition of approximately 23 structures, both residential and nonresidential. This represents 14.4 percent of the existing structures. The loss of nine additional housing units in a neighborhood of 46 structures will weaken the overall fabric of the neighborhood and the impact may be greater where seven structures are clustered near the southeastern end of the proposed floodwall.
2) The floodwall and levee will protect approximately 137 structures, both residential and nonresidential. This represents 85.6 percent of existing structures.
3) The CWL will require acquisition of a significant majority of existing parking and open space associated with the Coal Run Church of Christ. If constructed as designed, the floodwall and levee would significantly impact the church's ability to maintain current levels of operation.
4) The CWL will require acquisition of property adjacent a newly constructed multi-story medical clinic facility. Acquisition of property may prevent further expansion of the facility.
5) Placement of two large gate structures along US 23/80/460 where none existed previously will introduce a new physical element into the environment and may be a visual intrusion.
6) Regional traffic and economic activity along US 23/80/460 will be interrupted when high water causes the closure of the floodwall gates which cross the highway. However, it can be assumed that during times of high water, economic activity along the highway may be interrupted anyway.

7) The protected area will be cut off from the rest of Pike County during times of high water and gate closure. This may create several access issues, including access to medical services, grocery stores, and schools.
8) Introduction of the floodwall and levee will interrupt historical river access and potential future river access.
9) Introduction of the floodwall and levee will create a new physical barrier between two areas of Coal Run that were previously connected both physically and visually (protected area and commercial area further downstream). These impacts are not thought to be significant because of the current lack of a local street network between the areas.
10) Introduction of the floodwall and levee will create potential redevelopment areas because currently vacant land will be protected.
11) Construction of the floodwall and levee system may have potential noise and dust impacts for a day care center located along Church Street in Coal Run. Temporary relocation of the day care center may be required, which may temporarily change local traffic patterns and commute times.

North Pikeville Optimized Floodwall and Levee

The following impacts are possible if the North Pikeville optimized floodwall and levee system is implemented:

1) The CWL for the floodwall and levee will require the acquisition of approximately 22 structures, both residential and nonresidential. This represents 32.8 percent of the existing structures. The loss of a significant percentage of structures will weaken the overall fabric of the community.
2) The floodwall and levee will protect approximately 45 structures, both residential and nonresidential. This represents 67.2 percent of existing structures.
3) Placement of a large gate structure along Mayo Trail where none existed previously will introduce a new physical element into the environment and may be a visual intrusion.
4) Local street connections and traffic flow will be maintained from North Pikeville into Pikeville via Route 1480 during high water conditions. An existing floodgate currently eliminates local transportation access to downtown Pikeville during flood events.
5) Local traffic and economic activity along Mayo Trail will be interrupted when high water causes the closure of the floodwall gate which crosses Mayo Trail, particularly, traffic patterns around Pikeville High School. However, it can be assumed that during times of high water, economic and school activities along the roadway may be interrupted anyway.
6) Introduction of the floodwall and levee will interrupt historical river access and potential future river access.

7) Introduction of the floodwall and levee will create potential redevelopment areas because currently vacant land will be protected.
8) Introduction of the floodwall and levee will protect Pikeville High School. The high school is considered an overall community asset.