

**Watershed Plan and Environmental Assessment
Pigeon Roost Creek Watershed
Floodwater Retarding Structure #3
McKee, Kentucky
December, 2005**



**Sponsors:
Jackson County Conservation District, Jackson County Fiscal Court, City of McKee,
Kentucky**

TABLE OF CONTENTS:

Statement of Need.....	3
Affected Environment.....	4
Alternatives.....	6
Environmental Impacts of Alternatives.....	9
Cumulative Impacts.....	19
Resources of National Recognition.....	21
Public and Agency Participation.....	22
List of Agencies and Persons Consulted.....	22
Permits and Compliance.....	23
List of Preparers.....	23

Pigeon Roost Watershed FRS#3- Figures

- Figure 1: Flooding of McKee, KY 2004
- Figure 2: Site map for MPS # 1, FRS # 2, and proposed FRS # 3
- Figure 3: Damage reduction area of proposed FRS #3
- Figure 4: Damage reduction map within city of McKee for proposed FRS # 3
- Figure 5: Construction and borrow sites for FRS #3
- Figure 6: Photos of the existing FRS#2 near McKee, KY
- Figure 7: View of drainage path from Pigeon Roost Creek to Rockcastle River
- Figure 8: Economic Analysis and Project Benefit Cost Ratio

Pigeon Roost Watershed FRS#3 -Index of Letters:

US Fish and Wildlife Service, U.S. Department of the Interior
Corps of Engineers, Department of the Army
State Historic Preservation Office, Kentucky Heritage Council
Jackson County Conservation Board, McKee, Kentucky
Daniel Boone National Forest, U.S. Department of Agriculture
Kentucky State Nature Preserves Commission

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

STATEMENT OF NEED:

This watershed plan/environmental assessment (EA) analyzes the benefits and potential social, economic, cultural, and environmental impacts of constructing floodwater retarding structure #3 (FRS#3) on Pigeon Roost Creek, Jackson County, KY. This project is in direct response to continued flooding in the City of McKee, the county seat for Jackson County. Project sponsors for this proposal include the Jackson County Conservation District, Jackson County Fiscal Court, and the City of McKee. The Kentucky Natural Resources and Conservation Service (NRCS) is providing technical assistance to the sponsors including evaluation of alternatives, engineering support, preparation of a watershed plan/EA, and assistance with mitigation actions.

The City of McKee continues to be plagued by flooding from Pigeon Roost Creek, which runs along Hwy 421 and through the center of town. Recent flooding events have occurred in 1981, 1989, 2001, 2003, 2004 and 2005 with varying levels of damage to residences, commercial buildings, and City infrastructure. Examples of current flood impacts include:

- The McKee Baptist Church incurred flood damage in 1981, 1989, 2004, and 2005.
- An area of McKee, known locally as the “3-C Bottoms” is a residential area that has had flooding damage repeatedly - including 1989, 2003 and 2004.
- The McKee Manor, an apartment complex for low-income elderly was evacuated in 2004 due to flooding.
- Multiple homes on the west side of State Highway 421 have incurred damage from repeated flooding.
- Bond Memorial Park has flooded in 1989, 2004, and 2005. Damage varied by year but has included fencing, a concession building, restrooms, and storage facilities.

The Jackson County Conservation District, Jackson County Fiscal Court, and the City of McKee proposed this project to control floodwaters entering McKee thereby reducing the frequency and severity of damage to homes, businesses, and public infrastructure.

In 1986, the original Pigeon Roost Creek Watershed Plan and Environmental Assessment was completed and provided a basis for authorizing federal assistance for project implementation under Public Law 566, the Watershed Protection and Flood Prevention Act, as amended. This original plan proposed the following actions: the installation of two floodwater retarding structures; construction of a dike and associated streambank stabilization measures; and a cleanout of culverts on Highway 89. In 1990, the Pigeon Roost Creek Watershed Plan and Environmental Assessment – Supplemental Agreement No. 1 was finalized to include rural water supply and construction of Multiple-Purpose Structure No. 1 (MPS#1). The entire suite of proposed projects was found to have no significant adverse social, environmental or cultural impacts and subsequently, a Finding of No Significant Impact (FONSI) was filed with the Environmental Protection Agency and published in the Federal Register.

FRS #3, currently proposed for construction, was originally analyzed and approved as part of this 1986 Pigeon Roost Creek Watershed Plan and Environmental Assessment (EA). Multiple flood

control structures analyzed in the 1986 EA and/or 1990 Supplemental Agreement have already been constructed and include a floodwall in McKee, MPS#1, and FRS#2.

In 1988, a 258 ft long (5 foot high) floodwall was constructed to protect a McKee industry employing 220 persons. This industrial complex is now occupied by a company called Specialty Defense and has not incurred flood damage since the 1988 construction of the floodwall. FRS #2 was completed in 1994, and MPS #1 was completed in 1998. MPS #1 serves as both flood protection and a drinking water supply for the City of McKee. However, these three projects are currently providing only partial relief and the City of McKee continues to be impacted by flooding. These continuing flood events damage residential, commercial, and industrial properties including key downtown businesses.

Installation of FRS#3 will secure the flood reduction benefits goals originally forecasted in the 1986 Watershed Plan/EA. Although construction of FRS#3 was previously evaluated in the 1986 EA for environmental, social, and cultural impacts and approved, NRCS decided to complete this current environmental assessment to insure that the most up-to-date information on costs, environmental conditions and engineering technology will be evaluated.

Two alternatives were analyzed in this EA: 1.) no action and 2.) the construction of FRS#3. Other alternatives were preliminarily considered but rejected due to cost or infeasibility. These alternatives included floodproofing of impacted structures, relocation of homes/businesses, and/or construction of additional floodwalls.

AFFECTED ENVIRONMENT

The City of McKee is the county seat of Jackson County, KY. The latitude of McKee is 37.430N. The longitude is 83.998W. According to the 2002 census data, there are 878 residents. The town covers approximately 2.3 square miles.

The Pigeon Roost Creek (PRC) watershed is approximately 2,728.8 acres (or 4.26 square miles) and is located in Jackson County in eastern Kentucky. The upstream portion of the drainage area begins approximately three miles east/northeast of McKee, KY and extends west to terminate below McKee at the junction of Pigeon Roost and Indian Creeks. The PRC watershed is also located in the northern headwater section of the Cumberland River Basin. Major tributaries are PRC and Bills Branch Creek – PRC flows through the town of McKee coming from the east while Bills Branch Creek enters PRC near the junction of Highways 290 and 421. Downstream from the City of McKee, PRC intersects with Indian Creek and then flows into the Middle Fork of Rockcastle River north of the Jackson-Laurel County line.

The watershed is in the Eastern Coalfields physiographic area in Appalachia. Topography of this section of the Appalachian area is characterized by steep hills, rolling uplands, narrow ridge-tops, and entrenched valleys. Bituminous coal has been mined intermittently in the area for more than 100 years. This discontinuous coal seams, which are from 0-30 feet above the top of the Pennington formation, crop out along Bills Branch and Pigeon Roost Creeks. Coal seams in the area have been mined on a small scale for domestic fuel.

The streams flow mostly on bedrock and have earth side slopes. Pigeon Roost Creek, Indian Creek, and Bills Branch are all perennial streams. All smaller streams flowing into Bills Branch and PRC are intermittent. The hydrologic unit code-14 (HUC-14) of the Pigeon Roost Watershed is 05130102030170.

The predominant bottomland soil for the proposed site is Grigsby- a deep and well-drained fine sandy loam, 0 to 3 percent slopes, and is subject to frequent flooding. Small areas of Orrville Variant and Rowdy soils are present. Also included are small areas of poorly drained soils, soils that contain more than 35 percent coarse fragments and sandy soils that have been recently deposited by streams. The soil in the upstream portion of the project site is Shelocta-Gilpin channery silt loams, steep. According to the Soil Survey of Jackson and Owsley Counties, Kentucky, no significant areas of hydric soils are mapped in the project area. Because of the possibility of inclusions (small pockets of different soil types) NRCS Resource Conservationists have conducted multiple site visits. An in-field survey was conducted on 6/22/05 and the resulting report stated, "Based upon the field investigation of the site, it was determined that the soil survey map units accurately describe the site. The predominant soil observed on site was well-drained (Grigsby). Areas of somewhat poorly drained (Orrville Variant) soils were also observed. A small area of shallow water was observed (with cattails and rushes present), but appeared to be an excavated farm pond. A subsequent review of aerial photography by the District Conservationist determined that the pond was constructed after 1957 but before 1969. No significant areas of hydric soils were observed." In November and December 2005, NRCS re-evaluated the project and surrounding areas for wetland characteristics and found an additional (.2 acre) area of wetland-like vegetation. However, the site is a direct result of disturbance, soil compaction, and modified surface drainage patterns.

Vegetation in the hollow and slope areas within the project site are forested and contain poplar, hemlock, oaks, hickories, pawpaw, and other understory shrubs. Open areas within the project site consist of a variety of grasses and non-native vegetation. Much of the project area has been previously disturbed (logged, mowed, brush-hogged, graded) and some side slopes have been mined for household coal supplies. Vegetation in the hollow includes golden rod, Joe-pyeweed, boneset, mint, blackberry bushes, multiflora rose, and scattered bottomland trees such as poplar and sycamore. Besides the old farm pond, there is a small area showing altered drainage patterns contained rushes, cattails, and a willow tree.

Community Demographics: According to the 2002 census, there are 878 people in 359 households living in McKee as compared to 13,494 countywide. The racial makeup of the city is 99.54 percent white and 0.11 percent African American. Of the 359 households, over 39 percent have children under the age of 18. The median age is 27 years. The city's population has 31 percent of its population made up of people under the age of 18. The average household size is 2.36, and the average family size is 2.98.

The median household income in the City is \$11,622. The per capita for the city is \$7,589 with 53.3 percent of the population and 48.3 percent of families living below the poverty line. This compares to the county median household income of \$20,177 with the median income for a family being \$23,638. The per capita income for the county is \$10,711. The average value for housing units in the county is \$48,300.

ALTERNATIVES

1. No Action Alternative

The no-action alternative would be no construction of floodwater retarding structure #3. Without completion of FRS #3, flooding will continue to impact approximately 14 residences and 34 businesses in McKee, KY.

2. Proposed Action Alternative

As per the 1986 Pigeon Roost Creek Watershed Plan and 1990 Supplemental Agreement, flood retarding structure #2 and multiple purpose structure #1, plus a flood wall, are in place and provide partial flood relief to the City of McKee. This proposed action alternative is the installation of FRS #3 – an earthen structure designed to trap sediment and retain run-off water during major storm events. The principal spillway of FRS#3 would be designed to maintain the base flow of Pigeon Roost Creek, which has a drainage area of approximately 440 acres at this location in the watershed. The water impoundment behind the structure would vary from the permanent level of 2-3 acres to a high-flow capacity of approximately 9.5 acres.

The FRS#3 would be designed as a class “c” or high hazard structure due to the presence of downstream dwellings and businesses. The structure’s design height is approximately 53.1 feet with a length of 285 feet. FRS#3 would consist of an estimated 75,000 cubic yards of earth and rock fill and include a 35 foot auxiliary spillway. The earthen embankment would have an impounded normal pool area (sediment pool) of approximately 2.5 acres.

Approximately 1,550 feet of Pigeon Roost Creek will be impounded for the permanent pool and dam. A forested buffer of 170 – 200 feet will remain between Highway 421 and FRS # 3. Fill material for the embankment is proposed to be excavated from an upland area adjacent to the reservoir site.

The engineering design for the structure will include an erosion control plan to be followed during the construction period. The actions specified in this plan will lessen impacts to soil, water, and air resources during and after the construction period. (see Environmental Impacts of Alternatives, Soils Resources section)

NRCS has completed detailed engineering plans for this proposed FRS to evaluate acreage of each portion of the project with current projected figures as follows:

Embankment, Spillway, and Channel	8.31 acres
Sediment Pool	2.27 acres
Flooded area (maximum)	7.32 acres
Ingress and Egress	.50 acres
Borrow Areas	24.91 acres
Addition for work areas	1.2 acres
Total project area:	44.51 acres

Approximately 2-3 acres of woodlands at the structure site will be cleared. The 1.2 acres of woodland located between the borrow site and the structure site will be cleared to build a haul road. The borrow site will provide the material for construction of FRS#3 and will be excavated during the construction process.

Estimated construction costs for the FRS#3 are as follows:

Item	Cost	Cost Sharing	Totals
Construction	\$750,000		\$750,000
Engineering	\$100,000		\$100,000
Borrow Material	\$76,400		\$76,400
Contingencies	\$75,000		\$75,000
Inspection	\$37,500		\$37,500
Administration	\$37,500		\$37,500
Mitigation Costs	\$200,000		\$200,000
Land Rights		\$85,650	
Totals	\$1,076,400	\$85,650	\$1,362,050

The sponsors will be responsible for acquiring all necessary land rights for the completion of this project which are currently estimated at \$85,650. The current project area encompasses property owned by five different individuals.

Alternatives Analyzed but Dismissed:

According to the Council of Environmental Quality (CEQ) regulation 1502.14(a), an environmental assessment should briefly discuss the reason that other alternatives were eliminated from detailed study.

NRCS considered flood proofing as an alternative to the “no action” and construction of FRS#3. There are numerous flood-proofing measures currently available such as elevation of buildings, complete relocation of structures, floodwalls, levees, dry flood proofing, and wet flood proofing. Although flood proofing of buildings, which may include relocation of some structures is usually not the preference of property owners, NRCS did evaluate the feasibility of these actions for the City of McKee.

Flood proofing actions depend on a variety of conditions and vary building by building based on the building foundation, building construction, building condition and an array of site characteristics. Soil type, topography, flood depth and velocity, and economic considerations all are important. There are numerous information sources available to determine costs of flood proofing available including guidance from government agencies and recommendations from private companies.

NRCS has contracted with Mangi Environmental Group, Inc. to evaluate various costs of flood proofing homes in the Rockhouse Creek Watershed in Leslie County, KY. This firm specializes in development of environmental assessments and environmental impact statements. Under the “non-structural” Alternative in the Working Draft Rockhouse Creek Watershed Plan/ EIS, Assumptions and Results as of September 6, 2005, 87 residential structures, 7 basement homes

and 12 non-residential structures would be protected from a 100-year flood. This document analyzed the cost of flood proofing various structures depending on location, building materials, size, and cost. Under the Rockhouse Creek study, flood proofing costs per home averaged \$41,000 and flood proofing costs per business averaged \$79,000/business.

Utilizing these average costs, the Pigeon Roost FRS#3 project would protect 14 residential structures in the town of McKee. 14 homes x \$41,000 average cost = \$574,000 estimated total cost to flood proof these homes. The Pigeon Roost FRS#3 project would protect 34 businesses. Flood proofing of 34 businesses using the RHC estimate of \$79,000/business provides an estimated total cost of \$2,686,000. Total estimated flood proofing costs under this assumption would be \$3,260,000.

A secondary, building-specific analysis of flood proofing structures in McKee was conducted by an NRCS resource conservationist based on photos/maps of the McKee business district, flood event photos, topographic maps, age/construction of buildings, and known flooding history. In September 2004, NRCS had photographed all of the buildings in McKee that were impacted by flooding. Cost information estimates were taken from the US Army Corps of Engineers 1993 document entitled Flood Proofing, How to Evaluate Your Options. Using this data, the estimated cost of flood proofing the town increased substantially due to the higher costs of flood proofing brick buildings vs. wood, the age of the downtown buildings, and the size/complexity of the businesses (county court house, church, bank, gas station). The second analysis estimated that flood proofing buildings in McKee would exceed \$5 million.

Compared to the estimated cost for FRS#3 (\$1,162,050), flood proofing all 48 structures in the City of McKee was not considered not economically feasible compared to the construction of FRS#3 and was not analyzed further.

Building floodwalls throughout the City of McKee was not considered feasible due to the downstream effects of canalizing a large segment of Pigeon Roost Creek, the topography of project area, and the location and elevation of homes and businesses impacted by flooding. Under the 1986 Pigeon Roost Watershed/ EA and subsequent supplement, engineers evaluated over a dozen alternatives including stream channel work, relocation of businesses and residents, floodproofing of homes, and building up to five FRS structures. The alternative chosen was to complete a floodwall (now in place), FRS#2 (now in place), MPS#1 (now in place) and FRS#3 (proposed).

Relocation of downtown of McKee was also initially considered but found to be infeasible. Two figures in the appendix of this EA illustrate the extent of the damage reduction area provided by the construction of FRS#3. Both figures show that the majority of the downtown City of McKee, as well as homes and businesses along Hwy. 421 would gain significant protection from flood events through the construction of FRS#3. A relocation of affected businesses and homes would be cost prohibitive and create unacceptable economic and social impacts to the City of McKee.

ENVIRONMENTAL IMPACTS OF ALTERNATIVES

Air Quality

No Action: No change from present.

Proposed Action: A short-term increase in dust will occur as a result of construction with a construction period estimated to be 12 months. However, environmental impacts during the construction period will be heavily dependent on weather. After construction is complete, all disturbed areas will be re-vegetated and dust levels will return to pre-construction conditions. NRCS will require contractors to comply with a soil erosion plan and pollution control plan to minimize air quality impacts. For example, requirements of the mandatory pollution control plan for this project include:

- The burning of brush or slash and/or the disposal of other materials in the project area shall adhere to all local and state regulations.
- Fire prevention measures shall be taken to prevent the start or spreading of wild fires which could result from project work. Fire breaks or guards shall be constructed at locations as needed.
- All public access or haul roads used by the contractor during construction of the project shall be sprinkled or otherwise treated to fully suppress dust. All dust control methods shall insure safe operations at all times.
- All pollution control measures and works shall be adequately maintained in a functional condition as long as needed during the construction operation. All temporary measures shall be removed and the site restored to as nearly original conditions as practical.

Archeological, Cultural and Historical Resources

A Phase I archeological survey of the project area was conducted between June 22 and July 27, 2004 by a qualified archeologist and a final report was submitted to the NRCS Kentucky State Office on August 5, 2005. . This Phase I investigation consisted of pedestrian reconnaissance and/or shovel testing to identify any archeological sites or cultural resources in the project area. No archeological sites were identified and a full report was submitted to the State Historic Preservation Officer. A letter from the SHPO office dated November 17, 2005 concurred with the findings of no historic properties present on the site.

No Action and Proposed Action: no change from present

Environmental Justice

In a memorandum that accompanied Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations” it was stated that “each Federal agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low income communities, when such analysis is required by the National Environmental Policy Act (NEPA)”.

In preparing an environmental assessment such as this document, federal agencies must consider impacts not only on the environment, but also the related social, cultural and economic impacts.

Environmental Justice Guidance under NEPA also requires federal agencies to include meaningful community representation in the planning process and seek local community input. The purpose of the Environmental Justice Executive Order and the resulting federal guidelines are to issue that minority and low-income populations are not negatively impacted by a proposed action in an unfair manner.

No Action and proposed action: No change from present

Floodplains

No Action: No change from the present.

Proposed Action: In many cases, the installation of a dam or floodwater retarding structure has indirect negative impacts on downstream wetlands and floodplains due to increases in development downstream from the FRS. Since a FRS provides greater protection of an area from flooding there is often an increase in development below the structure.

The City of McKee has taken steps to control what kind of development occurs in its floodplain areas. McKee City Ordinance No 6-1991 states, “ This Ordinance shall apply to all areas of special flood hazard within the jurisdiction of McKee, as identified by the Federal Insurance Administration, and mandates that no structure or land in said areas shall hereafter be located, or extended, converted or structurally altered without compliance with its provisions; requires the obtaining of a permit from the City of McKee as administrator; makes provision as to the anchoring of mobile homes within areas of special flood hazard; requires that all new construction and substantial improvements be constructed with materials and utility equipment resistant to flood damage; provides that in all areas of special flood hazard, the lowest floor of any residential structure constructed or substantially improved shall have the lowest floor elevated to or above base floor elevation and any non-residential structure constructed or substantially improved shall either have its lowest floor elevated to or above base floor elevation or has said floor flood proofed...”

These regulations, while not banning future building in floodplain areas, do increase the cost of building in low-lying areas by requiring additional flood proofing of structures. The additional cost of floodproofing homes and the additional safety requirements needed will serve to limit construction in designated floodplains.

Although a flood wall was built in 1988, FRS#2 was built in 1994, and a multiple purpose structure (MPS#1) was built in 1998, the population of McKee has grown by less than 100 individuals over the last 2 decades. According to the US Census Bureau, the population in McKee in 2002 was 878. The estimated population of McKee in 1982 was 800, so the town has grown by about 80 people over the last 20 years. McKee is a small, rural community with limited employment opportunities. Due to these general demographic characteristics, it is anticipated that the installation of FRS#3 may cause some minor urban expansion in the floodplain of Pigeon Roost Creek. However, it is estimated that the overall growth of the town will not be substantially increased by the proposed action nor will downstream floodplains be negatively impacted at an accelerated rate.

Forestry Resources

Vegetation in the hollow and slope areas within the project site are forested and contain poplar, hemlock, oaks, hickories, pawpaw, and other understory shrubs. Open areas within the project site consist of a variety of grasses and non-native vegetation. Much of the project area has been previously disturbed (logged, mowed, brush-hogged, graded) and some side slopes have been mined for household coal supplies. Vegetation in the hollow includes golden rod, Joe-pyeweed, boneset, mint, blackberry bushes, multiflora rose, and scattered bottomland trees such as poplar and sycamore.

No Action: No change from present.

Proposed Action: Approximately 2-3 acres of woodland, at and adjacent to the immediate project site, will be cleared and converted to impounded water and/or wetland fringe. About 1.2 acres of woodland will be converted to a haul road leading from the borrow area to the structure site.

Human Health and Safety

No Action: Under this alternative, the City of McKee will continue to receive periodic flooding and this will continue threaten the safety of local residents. Recent flooding events have occurred in 1981, 1989, 2003, 2004 and 2005. In response, the City of McKee has made every effort to prepare, manage, and mitigate for these continuing flood events. On 4/6/2005 Jackson County/McKee completed and adopted a FEMA multi-hazard mitigation plan pursuant to the Disaster Mitigation Act of 2000.

Under this no-action alternative, numerous residents will continue to be negatively impacted by flooding, including increased exposure to potential health hazards. Typical floodwater impacts include backed-up sewer lines, cracked gas pipes, and electrical system malfunctions. Water and food supplies can become contaminated, rats/snakes may inhabit flooded structures, and interiors of buildings are usually ruined with mud, mold, and debris. The initial damage and cleanup process is stressful to property owners. Restoration efforts may include drying out the buildings, removing debris, draining standing water, cleaning out mud, fixing broken pipes and replacing walls, carpet, furniture, and clothing. Floods often destroy irreplaceable items such as photographs, business records, and family heirlooms. Many McKee residents have taken steps to minimize damage from the recurrent flooding, but each flood event is taxing to property owners, both financially and emotionally.

Flooding also impacts emergency services in the area. During flood events, roads leading out of McKee to area hospitals are impassable to vehicular traffic. These situations present a safety hazard to all residents that rely upon emergency services and initial response capabilities.

Proposed Action: Installation of the remaining flood structure (FRS #3) will decrease flooding of 14 residences and 24 businesses thereby reducing health and safety concerns associated with flood events.

Land Use

Much of Jackson County is rugged, hilly, or rolling terrain; 27% of the County is Daniel Boone National Forest. The county is drained by tributaries of the Kentucky and Cumberland rivers, and the Middle Fork of Rockcastle River is a major water source.

Agriculture is the mainstay of Jackson County, with hay, livestock, grains, tobacco, and milk/dairy the principal products. The 2002 Census of Agriculture data compiled by the National Agriculture Statistic Survey reports various statistics regarding farm size, income and crops. The following table illustrates data from 1997 and 2002 as a comparison.

The following table shows that the numbers of farms have declined in Jackson County from 1997 to 2002, but the number of acres/farm has increased. The average size of farms is less than 115 acres and both market value statewide and market value per farm have declined.

	1997	2002	Trend
Number of Farms	756	727	Down 4%
Land in Farms	77,286 acres	82,815 acres	Up 6%
Average Size of Farms	102 acres	113 acres	Up 11%
Market Value of Production	\$9,993,000	\$7,899,00	Down 21%
Market Value of Production, average/farm	\$13,218	\$10,866	Down 18%

Lumber is also a source of income, with approximately 70 % of the land forested with both hard- and softwoods. Other natural resources included iron ore and petroleum, most used locally, and coal. According to the Department of Energy, over 11 million tons of coal has been mined in Jackson County.

Another significant agricultural change throughout Kentucky was the “tobacco buyout”. A tobacco quota buyout was included in the American Jobs Creation Act of 2004, which was signed and enacted on October 22, 2004. The tobacco quota buyout terminates the federal tobacco price support and supply control programs (beginning with the 2005 crop), makes compensation payments to tobacco quota owners and active tobacco growers for the elimination of the tobacco quota asset, and provides for the orderly disposal of existing tobacco pool stocks. Quota owner and grower payments are made in installments, 2005-2014. This huge shift from tobacco growing to other agricultural products will occur over the next decade and create both financial and cultural impacts to tobacco farmers

No Action: No change from the present. The land at the proposed site is now a mix of grasses, shrubs, and hardwood/conifer trees.

Proposed Action: This project will not negatively impact land use percentages in Jackson County, KY.

Local Community

No Action: Local residents and businesses will continue to suffer loss of income, production down time, flooding clean-up costs, loss of revenue, and infrastructure repairs. Property values, real estate investments, and telecommunication investments will suffer negative effects. The City of McKee and the Downtown Revitalization Committee has worked continually to improve the downtown area. Utilizing available grant funding, McKee has investing millions in downtown improvements and infrastructure upgrades. For example, the City of McKee received approximately \$2.4 million in 2004 rural EZ/EC (Empowerment Zone/Enterprise Communities) funding specifically for downtown revitalization. Improvements included sidewalks, drainage/sewer repairs, landscaping and façade upgrades- all investments that are at risk during flood events. Funding was also obtained to establish a new city park in McKee and to make improvements to an existing park, both which have been damaged by flooding. The constant flood repairs, cleanup costs, and closures are a financial burden to this small town.

Proposed Action: Property values will be enhanced and local businesses and services will be protected from loss of revenue from flooding. City renovations, telecommunication and infrastructure investments will be protected. The frequency and duration of flooding for 34 businesses and 14 homes will be reduced. Purchasing either a home and/or a business property in McKee will be more attractive.

Municipal Water

MPS #1 provides municipal water storage for the City of McKee. The City water treatment facility is on Bills Branch Creek, northwest of McKee, and has not been damaged in recent flooding events.

No Action and proposed action: No effect.

Noise

No Action: No change from present

Proposed Action: During construction, noise levels will increase during construction as a result of equipment operation and blasting (if needed). After construction is completed, noise levels will return to pre-construction conditions. The construction period will be dependent upon weather, but a general estimate is that periodic construction activities will occur over a one-year period.

Prime Farmland

There is no prime farmland is present at the proposed site.

Recreation

No Action: No change in recreational use at the proposed site or within the city of McKee from present conditions will occur. Downstream, McKee City Park and facilities will continue to flood and receive scour, debris, and facility damages.

Proposed Action: The proposed site will provide limited aquatic-based recreation such as fishing, canoeing and aquatic wildlife viewing. The McKee City Park and its facilities will be protected from flooding.

Soil Resources

No action: No change from present

Proposed action: As with all floodwater retarding structure, sediments from upstream of the structure will be caught and slowly accumulate in the pond area of FRS#3. The estimated life cycle for FRS#3 is 100 years.

At the project site, there will be impacts to soils during and immediately after construction due to vehicle traffic, construction activities, and digging/soil moving associated with the project. A road will be constructed to the borrow site, which will be excavated to provide material for FRS construction. Areas within the project area will be denuded of vegetation and vulnerable to erosion from wind and rain. The extent of soil erosion associated with this project depends greatly on weather conditions during construction. Rainfall during the construction period will increase soils erosion rates thereby impacting water quality and aquatic biota downstream. To lessen the potential impacts of the construction activities, contractors will be required to comply with a soil erosion plan. Requirements of the soil erosion plan will include:

- Excavation and moving of soil materials shall be schedule so that the smallest possible area will be unprotected from erosion for the shortest time feasible.
- Seeding will be done to protect disturbed areas.
- Diversions will be used to channel water away from work areas and collect runoff from work areas for treatment and safe disposition.
- Culverts or bridges will be used were equipment must cross streams. These structures will be temporary and shall be removed.
- Sediment basins will be used to settle and filter out sediment from exposed areas to protect properties and streams below the construction site.
- Straw bale filters or geotextile sediment fences will be used to trap sediment from areas of limited runoff. Sediment filters shall be properly anchored and removed when no longer needed.
- If needed, waterways can be used for safe disposal of runoff from fields, diversions and other structures during construction. These works are temporary and shall be removed and the area restored after construction is finished.

Transportation

No Action: Highway 89 will continue to be blocked by flooding several times a year. Scour erosion around bridge abutments and pavement damage to U.S. 421 within the city limits of McKee will continue. Private, emergency, and business vehicles will periodically continue to be damaged by floodwaters.

Proposed Action: The depth and frequency of flooding within the city limits will decrease as will the frequency and amount of damage to roads, bridges, and vehicles. To better evaluate this

proposal, NRCS conducted an economic cost/benefit analysis. It was estimated that by installing FRS#3, there would be a damage reduction benefit of approximately \$155,000/year for the City of McKee. It was estimated that the construction of FRS#3 will save the county and state over \$3,300 per year in road and bridge repairs.

Visual Resources

No Action: No change from present. The view will remain in trees and herbaceous vegetation.

Proposed Action: The proposed action will create a negative visual impact in the project area during the construction period. However, the project area will only be partially visible from Highway 421 as a forested buffer of 170-200 feet will remain between the highway and the FRS#3. After construction is completed, the disturbed area will be re-vegetated and the permanent pool area will fill with water. The impounded flood pool area will have a freshwater marsh border (cattail/rushes) so the view will change from trees and herbaceous plants to a vegetated earthen dam and water impoundment.

Wildlife, Endangered and Threatened Species

Pigeon Roost Watershed is located in the northern headwater section of the Cumberland River Basin in Jackson County, KY. Changes in downstream aquatic habitat and project area habitat will occur due to the proposed alternative, the construction of FRS#3. Below the structure, there will be a reduction in high/low flow events and stagnate water pooling. Above the structure, there will be a permanent pool area of approximately 2.5 acres with a potential maximum flood pool area of approximately 9.5 acres. This change in habitat type will create a corresponding change in on-site species. Pool fringe areas will provide habitat for wetland species such as wading birds, amphibians, and semi-aquatic mammals. About 1.2 ac of upland woodland habitat will be converted to a haul road leading from the borrow area to the structure site.

Pigeon Roost Creek contains small forage fishes such as creek chub, stoneroller, common shiner, and rainbow darter. The creek does not support a sport fishery. A standard US EPA Rapid Bioassessment Protocol (RBP) was performed at the proposed site of FRS#3 in 2005. This stream assessment protocol was established by the US Army Corps of Engineers and consists of both biotic and abiotic components. The single habitat approach was utilized to assess the diversity of macroinvertebrates in the stream. Direct sampling was conducted of macroinvertebrate assemblages in riffle and run habitats from the natural cobble substrate. A representative sample of macroinvertebrates was collected and identified to family level taxonomy. Present in the creek are Caenidae (Mayflies), Hydropsychidae (Caddisflies), Hirudinea (Leeches), Gammaridae (Scuds) and Astacidea (Crayfish). The Macroinvertebrate Bioassessment Index (MBI) for the site was .98 and was based on family level taxonomy and riffle-only macroinvertebrates. Habitat for all macroinvertebrate species is expected to increase due to the installation of FRS#3 and subsequent increase in Lacustrine aquatic habitat.

Jackson County has two species of aquatic federally threatened and endangered (T&E) mussels – the Cumberland Bean (*Villosa trabalis*) and the Little-Wing Pearly Mussel (*Pegias fibula*). According to the Species Information database/Kentucky Department of Fish and Wildlife Resources, there are no recorded observations of these species in the project area (McKee quad).

Beside the mussels listed above, Jackson County has seven additional aquatic state threatened or endangered species – the Tennessee Clubshell (*Pleurobema oviforme*), the Pocketbook (*Lampsilis ovata*), the Purple Lilliput (*Toxolasma lividus*), the Ashy Darter (*Etheostoma cinereum*), the Elktoe (*Alasmidonta marginata*), the Olive Darter (*Percina Squamata*) and the Common Moorhen (*Gallinula chloropus*). Again, according to the Species Information database/Kentucky Department of Fish and Wildlife Resources, there are no recorded observations of these State-listed T&E species in the project area (McKee quad).

Federally-listed terrestrial species occurring in Jackson County include three bat species: the gray myotis (*Myotis grisescens*), the Virginia big-eared bat (*Corynorhinus townsendii virginianus*) and the Indiana bat (*Myotis sodalis*). There have been no recorded observations of these species in the project area (McKee quad).

US Fish and Wildlife Service (USFWS) has reviewed the plans for installing FRS#3 and determined that summer roost habitat for the Indiana bat may exist within the proposed project site. In order to avoid any adverse impacts to the Indiana bat, NRCS will limit activities according to USFWS recommendations. First, only a minimum number of trees within the project area will be removed. Second, tree removal will occur only between November 15 and March 31. A habitat survey (July – August 2004) revealed that winter hibernacula habitat (caves, rock shelters, abandoned underground mines) does not exist within the area to be disturbed. In a letter dated January 13, 2005, USFWS stated, “Based on your commitment to only clear trees 6-inches DBH or greater between November 15 and March 31, and based on the best information available at this time, we do not believe the project will result in adverse effects to the endangered Indiana bat.”

In addition to the three federally-listed bats, Jackson County has three additional terrestrial State-listed T&E species: the Eastern small-footed myotis (*Myotis leibii*), and the Rafinesque’s big-eared bat (*Corynorhinus rafinesquii*), and the Henslow’s sparrow (*Ammodramus henslowii*). Again, according to the Species Information database/KY Department of Fish and Wildlife, there are no recorded observations of these State-listed T&E species in the project area (McKee quad).

NRCS also requested a data review from the Kentucky State Nature Preserves Commission. The KSNPC expressed concern over possible impacts to Appalachian acid seep communities that may be within close proximity to the project. NRCS biologists and resource conservationists made an additional field examination of the project area and surrounding habitat specifically looking for this unique habitat type. No Appalachian acid seep communities were found in or near the project area.

No Action: No change from present

Proposed Action: Under this alternative, there will be a net decrease of Upper Perennial Riverine habitat of approximately 1550’ feet and an increase of Littoral and Limnetic Lacustrine aquatic habitat that will range from 2-3 acres to approximately 9.5 acres depending on water levels behind the FRS#3 structure. There would be a corresponding decrease in terrestrial habitat. The impoundment design of FRS#3 regulates water flow through, so the high pond

levels behind the structure would only be temporary (3-10 days). This proposal would have no significant negative impact on either State or Federally-listed threatened or endangered species.

Water Quality- Surface Waters

No Action: No change from present

Proposed Action: Short-term effects during construction will include an increase in turbidity and sediment load to Pigeon Roost Creek during the construction period; however, the engineering design will include an erosion control plan to minimize these impacts.

Since the construction of FRS#3 will require construction traffic, heavy equipment, and large volumes of soil/rock being excavated and stock-piled, the potential for soil and water quality impacts are high. A haul road will be constructed and a borrow pit will be excavated to provide much of the earthen material for this project. During construction, actual soil and water quality impacts will depend largely on weather conditions since areas within the project site will be without vegetative cover. A substantial rainfall event during the construction process would cause soil erosion, stream sedimentation, and a short-term decrease in water quality near the project site and immediately downstream. The potential for adverse impacts to surface water quality will depend on the amount of exposed soil and rainfall amounts. Heavy rain events will increase the amount of sediment runoff to streams and results in higher sediment yields, increased turbidity, and a short-term decrease in water quality which may adversely affect aquatic life.

The construction period is estimated to be 12 months. Best management practices (BMPs) will be employed during construction to minimize potential soil loss and water quality impacts. To insure the highest-level of protection for both water and soil resources at the project site, NRCS will require contractors to follow a soil erosion control plan and a pollution control plan. Elements of the soil erosion control plan are outlined under the Soil Resources section of this EA. The Pollution Control Plan includes:

- The contractor must provide watertight tanks or barrels or construct a sump sealed with plastic to be used to dispose of chemical pollutants, such as lubricating oil, transmission oils, greases, soaps, asphalt, etc. that may be produced as a by-product of the construction work.
- Sanitary facilities such as chemical toilets will not be placed adjacent to streams, wells, or springs.
- Numerous requirements to minimize soil erosion, such as silt fences, temporary sediment basins, and hay bales, are described in detail within the Soil Erosion Control Plan for this project. Please refer to the Soils Resources section of this document for more details.
- Should evidence of stream use or wetland impairment and/or violations of water quality standards occur as a result of this activity, the Kentucky Division of Water shall be notified immediately and physical, chemical and/or biological examination of the water course shall be conducted and reported. In such cases, additional facilities or alternative measure may be required.

Once the FRS is completed, the structure will serve to trap upstream sediments and retain peak flows during major storm events. The structure will impound water and act as a large retention

basin allowing water downstream at a slower rate. Except for periods of intense or prolonged precipitation, the releases from the structure are anticipated to be fairly even. Installation of FRS#3 will reduce high-velocity flows in the stream which will decrease streambank erosion rates. The long term effect will be a decrease in sediment loading downstream of the structure as a result of sediment storage within the structure for a 100-year period (design life of sediment pool).

Overall water quality in Pigeon Roost Creek is currently considered to be very good. In 2005, NRCS contracted with FMSM Engineers to conduct a Stream Assessment of Pigeon Roost Creek at the project site. The standard US EPA Rapid Bioassessment Protocol (RBP) was performed and results of the RBP were as follows:

- The total habitat score based on EPA's Rapid Bioassessment Protocol was 167, providing a Habitat Integrity Index of .95.
- The Macroinvertebrate Bioassessment Index was determined to be .98.
- The Ecological Integrity Index for the biotic component was determined to be .76.
- The Ecological Integrity Index for the abiotic component was determined to be .64.

This stream quality information was gathered in anticipation of mitigation for stream impacts caused by FRS#3. NRCS plans to assist the project sponsors in locating suitable mitigation sites and will work with non-government organizations and other government agencies to identify quality mitigation opportunities. NRCS also plans to provide the U.S. Army Corps of Engineers with proposed mitigation plans during the pre-application Section 404 consultation.

Both NRCS and the Jackson County Conservation District will continue to work with landowners in the watershed to improve overall water quality by applying conservation practices aimed at reducing overall soil erosion and nutrient loading within the watershed.

Wetlands

According to the Jackson County Soil Survey, there are no hydric soils mapped in the area. The project site has been inspected multiple times for possible inclusions of wetland soils; however, the only areas with wetland-type characteristics found include 1.) a constructed farm pond and 2.) a small (.2 acre) area of disturbed and compacted soils.

Wetlands downstream will not be impacted as the FRS will allow current base flow to pass.

No Action: No change from the present.

Proposed Action: A permanent area of impounded water will be created. The design of FRS#3 provides for water impoundment during peak flow events with a maximum of 9.5 acres of herbaceous vegetation, mixed hardwood forest and stream channel inundated for 3-10 days. Fringes of the impoundment will develop wetland-like characteristics.

Wild and Scenic Rivers

Wild and Scenic Rivers Act as Amended (16 U.S.C. 1271 et. seq.) was passed by Congress in 1968 and declared that "certain selected river of the Nation, which with their immediate

environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing conditions...” This project will have no impact on any federally-listed Wild and Scenic Rivers.

Special Use Waters, State of Kentucky

Pigeon Roost Creek Watershed (HUC-14) is part of the larger Middle Fork of the Rockcastle River Watershed (HUC-11) which does include waters designated as “exceptional waters”, “reference reach stream” and “outstanding state resource waters.”

“Exceptional waters” means certain waterbodies whose quality exceeds that necessary to support propagation of fish, shellfish, wildlife and recreation in and on the water. Waters in this category are reference reach waters, Kentucky Wild Rivers, some Outstanding State Resource Waters and water with excellent fish or macroinvertebrate communities (401 KAR 5:030 Section 1).

According to the Kentucky Division of Water, “Reference reach streams” are a representative subpopulation of the least impacted streams within a bioregion. These streams serve as chemical, physical, and biological models from which to determine the degree of impairment to similar stream systems in each representative bioregion. These are not necessarily pristine streams, but represent those least disturbed conditions that are attainable in each region.

“Outstanding state resource waters” are surface waters designated by the cabinet under 401 KAR 5:031, Section 7, and includes unique waters of the commonwealth, including those with federally threatened or endangered species.

Using NRCS geographic information system data, the distance from the project site to the Middlefork of the Rockcastle River was measured to be approximately 54,263 river feet. Due to the distance of the project site from the River and mitigation measures listed in the Erosion Control Plan and the Pollution Control Plan, the installation of FRS#3 will have no negative impacts to state-listed streams.

CUMULATIVE IMPACTS

According to the Council of Environmental Quality (CEQ) Regulations, Section 1508.7, “cumulative impact” is the impact on the environment which results from the incremental effects of an action when added to other past, present, and foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor actions that become collectively significant over a period of time.

A summary of past, present, and reasonably foreseeable actions, as related to the current condition of soil and water resources in the Pigeon Roost Creek Watershed include the following actions: floodwall and streambank stabilization in McKee (1988); construction of FRS# 2 (completed in 1994); construction of MPS#1 (completed in 1998); and the proposed construction of FRS#3.

To conduct a cumulative impacts analysis, NRCS methodology focused on geographic information technology (GIS) data to evaluate watershed size, stream miles within the watershed,

and the number/location of existing FRS or MPS structures. This information was used to evaluate potential impact these structures may be having on the watershed as a whole. NRCS has GIS data of all dam constructed with PL-566 funds and the Kentucky Department of Water provided additional information on known structure locations.

Pigeon Roost Creek Watershed, a 14-digit hydrologic unit code (HUC-14) watershed is part of the Upper Cumberland Basin and is approximately 2667 acres. According to the National Hydrography Dataset (NHD) 24K-Streams Coverage, Pigeon Roost Creek Watershed contains 8.9037 stream miles or 47,012' of stream miles. According to AutoCAD engineering diagrams, the proposed project will have a structure width of approximately 375', a permanent pool length of approximately 1180 feet and the maximum pool length would be approximately 1880 feet. Therefore, at permanent pool length, FRS#3 will impact approximately 3 % of the stream miles within Pigeon Roost Creek. Sponsors will also be required to mitigate for this impact prior to obtaining a Section 404 Permit from the U.S. Army Corps of Engineers. (See Permits and Compliance Section of this document)

NRCS maintains GIS information on all floodwater retarding structures funded through PL-566 monies (Watershed Protection and Flood Prevention Program). Within the Middle Fork of the Rockcastle River (MFRR) Watershed, there are currently two known structures: MPS#1 and FRS#2. MPS#1 is within the Bill's Branch Watershed and FRS#2 is within the Pigeon Roost Creek Watershed.

NRCS also used information from the Kentucky Department of Water (KDOW) database. The DOW database provided coordinates for structures located within Jackson and adjacent counties. Using GIS technology, NRCS analyzed the location of structures within the MFRR Watershed. Currently, eight structures are located within the 55,417 acres or 86.5 square miles of the MFRR Watershed. NRCS knows of no additional flood retaining structures or multiple purpose structures planned within the MFRR Watershed in the current or foreseeable future.

Given the size and scope of this project, the size of the watersheds involved, and the numerous mitigation measures planned, NRCS believes that the construction of FRS#3 will have no significant negative cumulative impacts for physical, biological, social, and cultural resources. The only known cumulative impact of the proposed action is that it will provide flood protection for the local community of McKee.

RESOURCES OF NATIONAL RECOGNITION

Type of Resource	Principal Source of National Recognition	Measurement of effects
Air quality	Clean Air Act, as amended (42 U.S.C. 7401 et seq)	Short tem increase in airborne dust during construction
Coastal zone	Coastal Zone Management Act of 1972, as amended (16 U.S.C. 1451 et seq)	Not in planning area
Endangered & Threatened Species	Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq)	Trees to be removed between Nov 15 & March 31 to avoid impacting summer roosting of Indiana bats
Fish & wildlife habitat	Fish and Wildlife Coordination Act (16 U.S.C. Sec 661 et seq)	2-3 ac of terrestrial habitat lost; 2-3 ac of aquatic habitat gained
Floodplains	Executive Order 11988 Flood Plain Management	2-3 ac of floodplain land converted to impounded water with flood storage
Historic & cultural properties	National Historic Preservation Act of 1966, as amended (16 U.S.C. Sec 470 et seq)	No effect
Prime & unique farmland	CEQ Memorandum of August 1, 1980; Analysis of Impacts on Prime or Unique Farmland in Implementing the National Environmental Policy Act, Farmland Protection Policy Act of 1981	No prime or unique farmland present
Water quality	Clean Water Act of 1977 (33 U.S.C. 1251 et seq)	Short-term: increased turbidity load from construction. Long-term: structure sediment storage will decrease downstream sedimentation
Wetlands	Executive Order 11990, Protection of Wetlands; Clean Water Act of 1977 (33 U.S.C. 1251 et seq); Food Security Act of 1985	No effect
Wild & scenic rivers	Wild and Scenic Rivers Act as Amended (16 U.S.C. 1271 et seq)	No effect

PUBLIC/AGENCY PARTICIPATION

A public meeting was held in the city of McKee, Kentucky, on August 11, 2004 to solicit public input. Thirty-nine private citizens attended the meeting. Continued flooding of McKee was the only concern voiced by meeting participants.

A technical committee meeting was also held on August 11, 2004 with the Mayor of McKee, the County Judge Executive of Jackson County, and State Representative Marie Rader attending. Unanimous support for the implementation of FRS # 3 was emphasized by the local officials.

Informal consultation with USFWS, Frankfort, KY, was carried out during the planning for this project. Recommendations from USFWS regarding habitat for the Indiana bat have been incorporated into this EA. A concurrence letter from the USFWS was received in January 2005.

The construction of FRS # 3 has been discussed with the Regulatory Branch of the Nashville District Army Corps of Engineers who has responsibility for issuing a Section 404 permit and a review letter was received on February 15, 2005. The sponsors will submit the necessary permit application to the ACOE and have the required permit in hand prior to initiation of construction.

On November 17, 2004, the State Historic Preservation Officer for Kentucky sent a letter concurring with the NRCS archeological survey of the project site. The letter stated, "In accordance with 36CFR Part 800.4(d) of the Advisory Council's revised regulations our finding is that there are No Historic Properties Present within the undertaking's area of potential impact."

On November 14, 2005, the Kentucky State Nature Preserves Commission responded to the NRCS request for data regarding known occurrences of any endangered, threatened, or special concern plants, animals, or exemplary natural communities monitored by KSNPC.

LIST OF AGENCIES AND PERSONS CONSULTED

U.S. Fish and Wildlife Service, Kentucky

U.S. Army Corps of Engineers, Nashville District

U.S. Geological Survey, Louisville

State Clearinghouse – Dept. of Local Government, Kentucky

Cooperative Extension Service, Jackson County

Jackson County Farm Bureau Federation, McKee

U.S.D.A. Forest Service, Kentucky

U.S.D.A. Farm Services Agency, McKee

U.S. Environmental Protection Agency, Atlanta

National Audubon Society – Frankfort Chapter

State of Kentucky Historic Preservation Office

PERMITS AND COMPLIANCE

The construction of FRS#3 will require sponsors to obtain multiple state and federal permits prior to construction. Anticipated permits will include:

Section 404: The waters and wetlands of the United States fall under the regulatory jurisdiction of the United States Department of the Army Corps of Engineers (USACOE). Under the Clean Water Act, Section 404, any filling or draining of the waters and/or wetlands in the United States requires a USACOE 404 permit.

Section 401 Water Quality Certification: Individual state permitting and water quality certification requirements provide an additional form of objective safeguard to the Corps regulatory program. Section 401 of the Clean Water Act requires state certification or waiver of certification prior to issuance of a Section 404 permit. The Clean Water Act Section 401 Water Quality Certification program in Kentucky is managed by the Kentucky Division of Water. Activities that result in physical disturbances to streams in Kentucky must have a Water Quality Certification (WQC) from the Kentucky Department of Water to ensure Kentucky Water Quality Standards (Title 401, Chapter 5 of the Kentucky Administrative Regulations) will not be violated. The KDEP, Division of Water, Floodplain Management Section requires a permit to construct across or along a stream. The Division of Water does offer a combined application for “Water Quality Certification” and a “Permit to Construct Along or Across a Stream”.

Kentucky Pollutant Discharge Elimination System: The KPDES program permits storm water runoff from construction sites and is administered by the Kentucky Department Environmental Protection (KDEP), Division of Water. A storm water permit is required if construction disturbs one or more acres and will be needed for this project.

Kentucky Division of Water. The Kentucky Division of Water (KDOW), Dam Safety and Floodplain Compliance Section, shares responsibility with the Floodplain Management Section of KDOW for the review and permitting of dams and hazardous impoundments as defined in KRS 151.100 and 401 KAR 4:030. The KDOW Floodplain Management Section is responsible for issuing the construction permit; however, the KDOW Dam Safety and Floodplain Compliance Section will be responsible for the construction compliance.

NRCS LIST OF PREPARERS

Anita Arends, Resource Conservationist
Michelle Beasley, Economist
Carol Chandler, Biologist/Planner
Mike Clayton, Resource Conservationist
Chuck Gibson, District Conservationist
Billy Hartsell, State Conservation Engineer
Douglas Hines, Resource Conservationist
Paul Howell, Geologist
Jacob Kuhn, Assistant State Conservationist for Natural Resources
Barry Rankin, Civil Engineer
William Sharp, Archeologist