

CHAPTER FOUR

INTRODUCTION

The physical geography of an area affects the amount, type, and direction of development. Natural factors such as climate, topography, geology, hydrology and soils are important because they influence the costs of construction and are determining factors in assessing an area's suitability for a given type of development or use. The purpose of this comprehensive plan element is the identification of environmental resources and the assessment of developmental impacts on these resources.

Rapid growth and development can have dramatic and long-term adverse effects on the physical and social environment. As Laurel County continues to grow, many environmental issues will continue to arise. Issues such as water quality, air quality, noise and light pollution, increased storm water runoff, and decreased open space can combine to affect the overall quality of life for residents. The depletion of natural features such as wooded hill-sides, scenic valleys, rivers, creeks, and open fields will become increasingly important as residents realize that these elements contribute to the unique character of an area and are unrecoverable once a parcel of land is developed. In addition, these type of amenities also provide less visible qualities, such as cleaner air, recreational areas and wildlife habitat, all of which are equally important to the community.

LOCATION

Laurel County, located in eastern Kentucky in the foothills of the Appalachian Mountains, has an area of 436 square miles and is ranked 25th out of 120 counties in terms of land area. The Rockcastle, Laurel, and Cumberland Rivers all run through the county, which contains part of the Daniel Boone National Forest. Two lakes, Laurel Lake and Wood Creek Lake, are located within the county, along with Levi Jackson Wilderness State Park. The City of London is the county seat and is located on U.S. 25, between I-75 and the Daniel Boone Parkway.

London - Laurel County



Environmental Considerations

CLIMATE

The climate in Laurel County is temperate and humid. Prevailing wind direction is from the south-southwest. The most common severe weather conditions are in the form of mild droughts or thunderstorms, which can bring heavy flooding along the rivers and creeks. According to the National Climatic Data Center, 33 floods/flash floods have occurred in the county since 1950. Tornadoes are the most devastating severe weather condition occurring in the area. Tornadoes can occur almost anywhere in Kentucky and in any terrain, hilltop or valley bottom. Since 1950, fifteen tornadoes have touched down in Laurel County. Severe storms can occur in any month but are most frequent from March to July. These storms may produce damaging winds and hail and there have been 78 incidents of hail since 1950.

Long term climatological data for the county is available from a London Weather Station (#154898- London_FAA_AIRPORT). Weather data is available from this station from the year 1954 to 1995 for extremes and from 1961 to 1990 for averages. The coldest days occur in January when the average monthly temperature is 32.7 degrees F. The warmest days occur in July with an average monthly temperature of 74.8 degrees F. During the period from May to September, an average of 16.2 days will have a maximum temperature of 90 degrees F or higher. The minimum temperature is expected to be 32 degrees F or less for an average of 97.8 days from October through May. The coldest temperature on record is -25 degrees F on January 19, 1994. The hottest recorded temperature was 101 degrees F on July 9, 1988.

Precipitation averages 45.65 inches annually. Records indicate that March tends to be the wettest month with an average of 4.43 inches and October the driest with an average of 2.76 inches. Precipitation is generally evenly distributed throughout the year. An average of eleven days per year will have precipitation of one inch or more.

PHYSIOGRAPHY AND GEOLOGY

The Physiographic Regions of Kentucky are shown below. Laurel County is located in the Eastern Kentucky Coalfield Physiographic Region. The outcrop of the Pennsylvania strata, shown on the geologic map, defines the limits of the Eastern and Western Kentucky Coal Fields. This area is intricately dissected narrow ridges bordered by deep, steep-walled valleys. The Eastern Kentucky Coal Field is larger than its western counterpart and is the eastern edge of a larger physiographic region, the Cumberland Plateau which extends from Pennsylvania to Alabama. On the eastern edge of the Eastern Kentucky Coal Field lies the Cumberland Escarpment, also known as the Pottsville Escarpment. Formed from resistant Pennsylvanian-age sandstone and conglomerates, which are separated by less resistant shales, the escarpment results in sheer cliffs, steep-walled gorges, rock shelters, waterfalls, and natural bridges and arches.

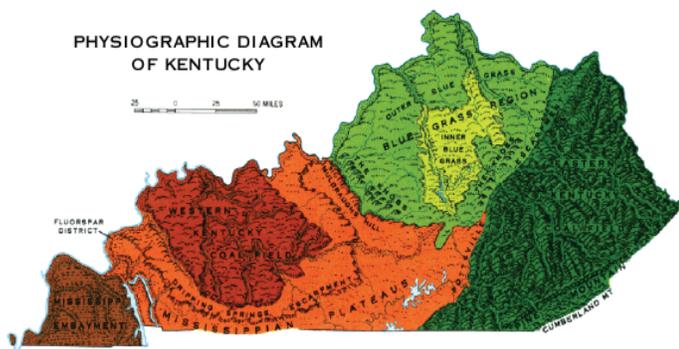


Figure 4-1 is a generalized geologic map of Laurel County prepared by the Kentucky Geological Survey. Laurel County is underlain by two types of Pennsylvanian age rocks known as the Breathitt and Lee Formations. The Breathitt Formation consists of siltstone, sandstone, clay shale, coal, underclay and some limestone. With a maximum thickness of 2,500 feet, this formation contains most of the minable coal. The Lee Formation is exposed near the crest of the Pine and Cumberland Mountains, although it can also be found in the larger, more deeply eroded valleys and structural highs. This formation, consisting of sandstone, conglomerate, shale, coal and underclay,

London - Laurel County



Environmental Considerations

ranges from 350 to 1,500 feet or more in thickness. While coal is found in this formation as well, the beds tend to be thin and convex on both sides.

The faults within the Eastern Kentucky Coal Field that lie near Laurel County include Pine Mountain fault, Rocky Face fault, and the Middlesboro syncline. These fault systems were formed along the edges of a broad rift or crack in the Earth's crust that occurs deep beneath the surface. The Pine Mountain fault is the northwest border of the Cumberland over thrust block. It is bordered on the southwest by the Middlesboro syncline, where the strata tends to be relatively flat in the center, but dips from the Pine and Cumberland Mountains at anywhere between 10 and 65 degrees. The Rocky Face Fault, a transverse fault zone, breaks the Middlesboro syncline and extends between the Cumberland and Pineville Gaps. There are no faults within Laurel County. However the proximity of active seismic zones, such as the New Madrid, Wabash, and East Tennessee, mean that precautions should be taken to mitigate earthquake damage.

The topography in Laurel County is characterized by steep terrain with deep valleys as shown in Figures 4-2 and 4-3. Elevations range from 723 feet (normal pool) at Lake Cumberland where the Rockcastle and Cumberland Rivers merge to 1,700 feet at a peak on the Laurel-Knox County line. A number of flat ridges resulting from resistant sandstone have become the base of most development in London, elevation 1,255 feet, and Lily, elevation 1,131 feet. The Daniel Boone National Forest covers nearly a quarter of the county (63,874 acres or 23% of land area).

According to the Kentucky Geological Survey, there are over 250 coal exploration sites in Laurel County, as well as five coal seams. Figure 4-4 shows the location of coal sites and seams, as well as the location of oil and gas wells. Precautions should be required when proposals are submitted for developing over old mined areas because of the possibility of subsidence. Mine subsidence insurance is available in Kentucky and should be required for properties developed in these areas. As surface coal mine areas are prone to settling after reclamation, any construction on reclaimed soils must be properly engineered to prevent damage to structural foundations and roads.

Environmental Considerations

Surface mine areas also lack soil structure which can inhibit growth of vegetation during summer months.

SOILS

Detailed soil information and soil maps can be found in the Soil Survey of Laurel County, Kentucky published by the U.S. Department of Agriculture, Natural Resource Conservation Service. The general soil map found in the Soil Survey shows that there are four soil associations in Laurel County as described below and shown in Figure 4-5.

Soil associations are generalized groupings of similar soils with common relief and drainage patterns. While specific soil information must be consulted to determine the suitability of a particular site for various land uses, the associations can provide information for general planning purposes. The following paragraphs summarize the four associations found within the Soil Survey of Laurel County, Kentucky.

SHELOCTA-LATHAM-WHITLEY - The Shelocta- Latham-Whitley soil association is found on the east side of Laurel County. Found on slopes and ridgetops, these soils are moderately deep or deep soils that have a clayey or loamy subsoil and are sloping to very steep. General farming and woodlands are the primary land uses of this soil association.

STENDAL-BONNIE-WHITLEY - The Stendall-Bonnie-Whitley soil association is nearly level, located along the floodplain and adjacent to the Laurel and Little Laurel Rivers (and associated main streams) near Lily and just southeast of London. On bottom lands, it tends to be poorly drained with a loamy subsoil, while on ridges the soils are sloping, deep, and well drained with a loamy subsoil. Covering about four percent of Laurel County, the primary land use for this soil association is general farming.

WHITLEY-LATHAM-LILY - The Whitley-Latham-Lily soil association contains gently sloping to steep soil found on side slopes and ridge tops. These moderately deep to deep soils have a loamy or clayey subsoil, and are found in central and south central Laurel County along the I-75 corridor and the

London - Laurel County



Environmental Considerations

north east part of Laurel River Lake. About a quarter of Laurel County is covered by this soil association, which is privately owned and used for general farming. The Daniel Boone National Forest makes up about five percent of this association and is owned and managed by the Forest Service.

SHELOCTA-RIGLEY-LATHAM- The Shelocta-Rigley-Latham soil association is predominantly found on privately owned land, although the Forest Service does own and manage 45% of the acreage. Eighty percent of the privately owned acreage is also wooded. This soil association covers 37% of Laurel County, has sloping to very steep, deep soils with a loamy subsoil on long side slopes and sloping to moderately steep, moderately deep soils with a clayey subsoil on narrow ridgetops.

Due to the steep slopes and tendency for flash floods, the main limitation for all of the previously mentioned soils is erosion. Erosion is the weathering, dissolution, abrasion, corrosion, and/or transportation of materials from the earth's surface by wind, water, waves, or other natural phenomena. The erosion of topsoil can be greatly reduced by the implementation of preventative measures such as maintaining vegetative cover or the use of terraces and berms.

HYDRIC SOILS AND WETLANDS

Hydric soils are those soils which are saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions in the upper part. The presence of hydric soils is an indication that wetlands may exist in an area. Under currently accepted definitions, an area is considered a wetland if it has hydric soils, hydrophytic vegetation (plants that are adapted to growing in wet conditions) and wetlands hydrology. Wetlands as defined by the US Fish and Wildlife Service have been mapped as part of the National Wetland Inventory Program. The Kentucky Environmental and Public Protection Cabinet has prepared maps of these wetland areas in Kentucky. Figures 4-6 and 4-7 show these mapped wetlands for the City of London and Laurel County. Wetland hydrology means that the area is either permanently or periodically inundated or the soil is saturated to the surface at some time during the growing season. Hydric soils in the county are listed as follows:

Environmental Considerations

- Bn Bonnie silt loam (hydric due to saturation)
- Bo Bonnie silt loam, terrace (hydric due to saturation)

Other soil map units that may have inclusions of hydric soils are as follows:

Symbol	Name	Probable position of Hydric Inclusions
Sn	Stendal silt loam	Bonnie soils in low spots
So	Stendal silt loam, terrace	Bonnie soils in low spots
Ss	Stendal fine sandy loam, sandy variant	Bonnie soils in low spots

In Laurel County all hydric soils support or would have supported woody vegetation under natural conditions except those as identified as swamp or ponded phases.

PRIME FARMLAND SOILS

According to the U.S. Department of Agriculture, Natural Resource Conservation Service, prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber and oilseed crops and is also available for these uses. Prime farmland can be cropland, pastureland, rangeland, forest land or land other than those used for urban purposes or covered with water. Prime farmland has the soil quality, growing season and moisture supply needed to economically produce sustained high yields of crops when treated and managed according to acceptable farming methods. In general, prime farmlands have an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, acceptable salt and sodium content and few or no rocks. They are permeable to water and air. Prime farmlands are not excessively erodible or saturated with water for a long period of time. They either do not flood frequently or are protected from flooding. The following soils found in Laurel County are considered to be potential prime farmland soils:

London - Laurel County



Environmental Considerations

A1B	Allegheny loam, 2 to 6 percent slopes
BdB	Bedford silt loam, 2 to 6 percent slopes
Bn	Bonnie silt loam (1,2)
Bo	Bonnie silt loam, terrace (2)
BtB	Britwater cherty silt loam, 2 to 6 percent slopes
Cf	Chagrin loam (1)
Co	Cotaco loam
CsB	Crider silt loam, 2 to 6 percent slopes
Cu	Cuba silt loam (1)
FdB	Frederick silt loam, 2 to 6 percent slopes
LbD	Latham silt loam, 2 to 6 percent slopes
L1B	Lily loam, 2 to 6 percent slopes
Lv	Lindside silt loam (1)
Mo	Morehead silt loam
Mv	Morehead silt loam, high base variant
Nd	Newark silt loam (1,2)
Ng	Newark gravelly silt loam, gravelly variant (1,2)
No	Nolin silt loam (1)
Po	Pope fine sandy loam (1)
Sh	Steff silt loam (1)
Sn	Stendal silt loam (1,2)
So	Stendal silt loam, terrace (2)
Ss	Stendal fine sandy loam, sandy variant (1,2)
T1B	Tilsit silt loam, 2 to 6 percent
WhB	Whitley silt loam, 2 to 6 percent slopes
WtA	Whitley silt loam, terrace, 0 to 2 percent slopes
WtB	Whitley silt loam, terrace, 2 to 6 percent slopes

1) Areas of this soil that are subject to flooding during the growing season more frequently than once in two years are not considered prime farmland.

2) Areas of this soil lacking adequate drainage to a sufficient depth during the cropping season to allow cultivated crops common to the area to be grown are not considered prime farmland.

Environmental Considerations

In addition to prime farmland the Soil Conservation Service has also identified farmlands of statewide importance. This is land that is of statewide importance for the production of food, feed, fiber, forage and oilseed crops. Generally, farmlands of statewide importance include those that are nearly prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some may produce as high of a yield as prime farmlands when conditions are favorable. The following soils found in Laurel County may indicate farmland of statewide importance:

- A1C Allegheny loam, 6-12% slopes
- BgC Berea silt loam, 6-12% slopes
- BtC Britwater cherty silt loam, 6-12% slopes
- CsC Crider silt loam, 6-12% slopes
- FdC Frederick silt loam, 6-12% slopes
- LbC Latham silt loam, 6-12% slopes
- LlC Lily loam, 6-12% slopes
- SbC Shelocta gravelly silt loam, 6-12% slopes
- SkC Steinsburg sandy loam, 6-12% slopes
- TlC Tilsitsilt loam, 6-12% slopes
- WhC Whitley silt loam, 6-12% slopes
- WtC Whitley silt loam, terrace, 6-12% slopes

SLOPES

Land uses vary in their sensitivity to slope. Virtually flat land can be used for intensive activity, while slopes in excess of 20 percent present limitations so great that development is not feasible, both practically and financially. Residential development can take place on small, scattered sites utilizing land that industrial development must forego. The location and concentration of slopes in the form of hills, ridges, valleys and plains can force development into large clusters or break it up into dispersed patterns. Laurel County's topography has structured the form of its small communities and guided the location of major transportation routes. The suitability of differ-

London - Laurel County



Environmental Considerations

ent degrees of slope for development is shown in Table 4-1. Figures 4-2 and 4-3 show the topography of the City of London and Laurel County.

Visual indications of unstable slopes include previous slides or slumps, cracking of the top of the slope, tilting of fences, retaining walls, utility poles or trees, new cracks in foundations and sidewalks and slowly developing and widening cracks in the ground or paved areas.

Development of steep slopes can accelerate erosion, increase runoff, and decrease the volume of water absorbed and filtered as groundwater. Damage to buildings and other man made structures can occur on unstable slopes. Commercial and industrial development should be restricted on slopes steeper than 12%. Developers of residential property on such slopes should be required to prove that the construction techniques used can overcome a site's limitations. In certain instances, the planning commission should consider requiring the submittal of geotechnical reports prior to approving a site plan or subdivision plat.

To date most development in Laurel County has occurred on land with minimal slope or on flat ridges that resulted from the resistant sandstone geology found in certain areas.

TABLE 4-1
SLOPE SUITABILITY FOR
URBAN DEVELOPMENT

Limitations	Suitability Rating	Residential	Commercial	Industrial Park
Slight	Optimum	0-6%	0-6%	0-2%
Moderate	Satisfactory	6-12%	6-12%	2-6%
Severe	Marginal	12-18%	12-18%	6-12%
Very Severe	Unsatisfactory	18%+	18%+	12%+

Source: Kiefer, Ralph W., "Terrain Analysis for Metropolitan Area Planning," Journal

WILD & SCENIC RIVERS

Forming the western border of Laurel County, the Rockcastle River is one of the county's most prominent environmental features. The river is a cold-water aquatic habitat, home to a number of rare and endangered species, including fish, mussels, and bats. The 15.9 mile stretch of river from River Mile 24.4 to River Mile 8.5 (Figure 4-8) has been designated as a State Wild River, and has also been nominated for National Wild and Scenic River status. A Kentucky Wild River is actually a linear corridor encompassing all visible land on each side of the river up to a distance of 2,000 feet. Developments that might impair the river's water quality or natural condition are regulated through a permit system. The Rockcastle River flows primarily through the Daniel Boone National Forest and has relatively good water quality. As a result, the river has also been designated as an Outstanding State Resource Water and an Exceptional Water Resource. The presence of government owned land around the river serves as a protective buffer; however, unreclaimed coal mines, logging, and development within the watershed all pose threats to the quality of the river.

FLOODPLAINS

Floodplains are low lying areas that are susceptible to flooding. Laurel County has areas that have been officially designated by the Federal Emergency Management Agency (FEMA) as flood hazard areas. The Flood Insurance Rate Maps (FIRMs) have been in effect for the City of London (FIRM#210396) since 1986 and for the county (FIRM#210134) since 1991.

As part of FEMA's map modernization program, updated FIRM's for both the City of London and Laurel County became effective August 2, 2006. Figure 4-8 and 4-9 show the location of flood hazard areas in Laurel County. Due to the large percentage of steep slopes in Laurel County, flash floods occur quite frequently. Subdivisions or other higher intensity uses can increase flooding if proper storm water management techniques are not imple-

London - Laurel County



Environmental Considerations

mented during the planning and development process. Water quality can also be impaired from improper sewage treatment and storm water run-off.

AIR QUALITY

Air quality is monitored by the Division of Air Quality Control of the Kentucky Natural Resources and Environmental Protection Cabinet, Department for Environmental Protection. The “Kentucky Ambient Air Quality Report,” which is produced by the Technical Services Branch of the Kentucky Division of Air Quality, is issued annually. The last report issued summarizes statistical results of monitoring conducted during the year 2004 to measure outdoor concentrations of air pollutants in the Commonwealth. The primary source of data for the report is the Air Quality Surveillance Network operated by the Kentucky Division for Air Quality which has operated an air quality monitoring network since July 1967. The 2005 network included 129 monitors in 37 counties (this total includes monitors operated by the Louisville Metro Air Pollution Control District and the National Parks Service at Mammoth Cave). The monitoring station locations are selected with U.S. Environmental Protection Agency guidance and, in general, are established near high population areas of air pollution sources. Each year the sites are reviewed to ensure that adequate coverage is being provided. Overall, the division monitors compliance of five criteria pollutants including carbon monoxide, sulfur oxides, nitrogen dioxide, ozone, and particulate matter. In 2005, all Kentucky counties were in attainment for carbon monoxide, sulfur dioxide, and nitrogen dioxide. Although there were no exceedances for particulate matter in 2005, the counties of Jefferson, Bullitt, Boone, Kenton, Campbell, Boyd and a portion of Lawrence were considered non-attainment areas based upon 2002-2004 data. There were also some exceedances for ozone standards in 2004 in the counties of Boyd, Bullitt, Campbell, Hancock, and Jefferson. In 2006, it was requested that Jefferson, Bullitt, Oldham, and Boyd counties be redesignated to attainment based on 2003-2005 data.

Laurel County is located within the Appalachian Intrastate Air Quality Control Region which includes the 21 counties of Bell, Breathitt, Clay, Floyd, Harlan, Jackson, Johnson, Knott, Knox, Laurel, Lee, Leslie Letcher,

Environmental Considerations

Magoffin, Martin, Owsley, Perry, Pike, Rockcastle, Whitley and Wolfe. In 2006, this area of the Air Quality Surveillance Network had three monitors as follows:

LOCATION	AIRS ID
Airport, 34 th & Dorchester - Middlesboro, Bell County	21-013-0002
Perry County Horse Park - Hazard, Perry County	21-193-0003
101 N. Mayo Trail, DOT Office - Pikeville, Pike County	21-195-0002

The only air monitoring station located in Laurel County is at the London–Corbin Airport on a ground level platform located near the terminal building with sample inlets 7’ above ground level and 75’ from the nearest road. This monitoring station was part of the 2005 Air Quality Surveillance Network, but was not included in the 2006 network.

The Division of Air Quality also has an Air Quality Index (AQI) used for reporting daily air quality for the five major air pollutants regulated by the Clean Air Act: ground level, ozone, particulate pollution, carbon monoxide, sulfur dioxide, and nitrogen dioxide. An AQI value of 50 represents good air quality with little potential to affect public health while an AQI value over 300 represents hazardous air quality. An AQI value of 100 generally corresponds to the national air quality standard. Therefore, AQI values of 100 are generally satisfactory while values above 100 are considered to be unhealthy-at first for certain sensitive groups of people, then for everyone as AQI values get higher. As part of the 2005 Kentucky Ambient Air Quality Report, a map was generated showing the Air Quality Index for the number of days in which the AQI is above 100 for each county (if data is available). On this map, it shows that Laurel County did not have any days above an AQI of 100. Therefore it can be assumed that air quality in the county is good.

NOISE

High noise levels can impact the health and safety of residents. Excess noise can cause impacts ranging from the nuisance of interrupting a conversation to causing physical and psychological harm. The primary consideration for noise in terms of new development is community noise level.

London - Laurel County



Environmental Considerations

According to, “The Noise Guidebook”, issued by the Department of Housing and Urban Development, the main contributors to a community noise problem are transportation noises such as highways, railroads, and airports. These sources are the most pervasive and continuing of the noise sources. The main issues involved in any noise analysis are how much noise a site is exposed to, what types of activities are affected and what design or attenuation measures can be used to keep noise to an acceptable level. Outdoor noise levels are of greatest concern in residential areas especially at night when sleep is disrupted.

The easiest way to mitigate noise is to separate noise sources from noise receptors. This can be accomplished by requiring buffer zones or noise abatement around airports and greater minimum setbacks from railroads, highways and higher intensity commercial and industrial uses. For example, HUD recommends that no occupiable building be constructed within 100 feet of a railroad due to the impact of noise and vibration. Noise levels can also be attenuated by noise barriers, site design, and soundproofing buildings. It is recommended that a noise analysis be conducted when noise sensitive uses such as residential development or hospitals are proposed near railroads, airports, or highways with considerable truck traffic. In Laurel County, the major facilities of concern are the London-Corbin Airport, CSX Railroad, mining areas where blasting occurs, I-75, Hal Rogers (Daniel Boone) Parkway, US 25, US 80, industrial areas, and strip commercial areas. It is recommended that a noise analysis be required for any new residential or other noise sensitive uses within 1,000 feet of the CSX railroad, I-75, Hal Rogers Parkway, US 80, US 25 and proposed route of I-66.

ENDANGERED SPECIES

The primary concern for the impacts of development on plant and animal life is the effect on rare and endangered species. There are a total of twenty-three species of potential concern listed in Laurel County according to the Kentucky Department of Fish and Wildlife Resources. Of this number, nine are mollusks (or freshwater mussels), four are birds, four are fish, three are bats, two are salamanders, and one is a bear. The species are listed as follows:

Environmental Considerations

American Black Bear (*Ursus americanus*) Class: Mammalia (Mammal)

Status: Federal Partial Status Undeclared

State Special Concern

Ashy Darter (*Etheostoma cinereum*) Class: Actinopterygii (Fish)

Status: No Federal Status

State Special Concern

Blackside Dace (*Phoxinus cumberlandensis*) Class: Actinopterygii (Fish)

Status: Federal Listed Threatened

State Threatened

Coal Skink (*Eumeces anthracinus*) Class: Reptilia (Salamander)

Status: No Federal Status

State Threatened

Cumberland Bean (*Villosa trabalis*) Class: Bivalvia (Freshwater Mussel)

Status: Federal Listed Endangered, Nonessential experimental population

State Endangered

Cumberland Elktoe (*Alasmidonta atropurpurea*) Class: Bivalvia (Freshwater Mussel)

Status: Federal Listed Endangered

State Endangered

Cumberlandian Combshell (*Epioblasma brevidens*) Class: Bivalvia (Freshwater Mussel)

Status: Federal Listed Endangered, Nonessential experimental population

State Endangered

Dark-Eyed Junco (*Junco hyemalis*) Class: Aves (Bird)

Status: No Federal Status

State Special Concern

London - Laurel County



Environmental Considerations

Eastern Small Footed Myotis (*Myotis leibii*) Class: Mammalia (Bat)

Status: No Federal Status

State Threatened

Elktoe (*Alasmidonta marginata*) Class: Bivalvia (Freshwater Mussel)

Status: No Federal Status

State Threatened

Fluted Kidneyshell (*Ptychobranthus subtentum*) Class: Bivalvia (Freshwater Mussel)

Status: Federal Candidate

State Endangered

Gray Myotis (*Myotis grisescens*) Class: Mammalia (Bat)

Status: Federal Listed Endangered

State Threatened

Great Blue Heron (*Ardea herodias*) Class: Aves (Bird)

Status: No Federal Status

State Special Concern

Kentucky Creekshell (*Villosa ortmanni*) Class: Bivalvia (Freshwater Mussel)

Status: No Federal Status

State Threatened

Little Spectaclecase (*Villosa lienose*) Class: Bivalvia (Freshwater Mussel)

Status: No Federal Status

State Special Concern

Olive Darter (*Percina squamata*) Class: Actinopterygii (Fish)

Status: No Federal Status

State Endangered

Environmental Considerations

Pocketbook (*Lampsilis ovata*) Class: Bivalvia (Freshwater Mussel)

Status: No Federal Status

State Endangered

Rafinesque's Big-Eared Bat (*Corynorhinus rafinesquii*) Class: Mammalia (Bat)

Status: No Federal Status

State Special Concern

Red-Breasted Nuthatch (*Sitta canadensis*) Class: Aves (Bird)

Status: No Federal Status

State Endangered

Sharp-Shinned Hawk (*Accipiter striatus*) Class: Aves (Bird)

Status: Federal Partial Status Undeclared

State Special Concern

Southeastern Five-Lined Skink (*Eumeces inexpectatus*) Class: Reptilia (Salamander)

Status: No Federal Status

State Special Concern

Stargazing Minnow (*Phenacobius uranops*) Class: Actinopterygii (Fish)

Status: No Federal Status

State Special Concern

Tennessee Clubshell (*Pleurobema oviforme*) Class: Bivalvia (Freshwater Mussel)

Status: No Federal Status

State Endangered

SUMMARY

The purpose of this chapter is to identify environmental resources within the county which might be negatively impacted by development and

London - Laurel County



Environmental Considerations

to provide information on environmental conditions which should be considered when evaluating future land uses and new developments.

As Laurel County continues to grow it can be expected that physical changes to the environment will occur if current development patterns continue. When new development is proposed, areas that are categorized as environmentally sensitive or scenic should be identified on site plans. Information on environmental conditions such as soils, wetlands, floodplains and so on should also be evaluated on a site specific basis. A noise analysis should be required for any new development along major highways or railroads. Once these areas are identified and mapped, development plans should be modified as necessary to protect the environment and mitigate the creation of additional environmental hazards. In addition, it is recommended that an inter-agency site plan and subdivision review process be established. The creation of this inter-agency review process would enable the planning commission to more accurately identify potential environmental concerns when considering land use changes, subdivision plats, proposed drainage facilities, erosion control methods, landscape and greenspace requirements. The planning commission may want to evaluate existing requirements for storm water runoff and erosion control as part of an overall watershed protection program. This issue is discussed in more detail in Chapter Six - Public Facilities.