



Stream Buffers

Boone County/City of Columbia Stream Buffer Ordinances



Why do we Have to Have these Stream Buffer Ordinances?

The citizens of Boone County and Columbia have determined that these regulations promote public health, protect property values, and reduce impacts of stormwater runoff.



Photo courtesy of Scott Hamilton



When Did the Ordinances Go into Effect?

- City of Columbia – January 2, 2007
- Boone County – June 1, 2009



Who Does the Stream Buffer Ordinance Apply to?

- All proposed development
- Activities that involve clearing, earthwork, and excavation within the buffer zone



Photos courtesy of Dave Derrick, Research Hydraulic Engineer US Army Corps of Engineers



Who is Exempt from the Ordinances?

- Any development or structures that exist prior to January 2, 2007, within the city limits of Columbia
- Any development or structures that exist prior to June 1, 2009, within Boone County



Who is Exempt from the Ordinance?

- Federal permitted activities
- State permitted activities
- Agriculture or farming activities in within the county



Photo courtesy of the US Army Corps of Engineers



Photo courtesy of NRCS



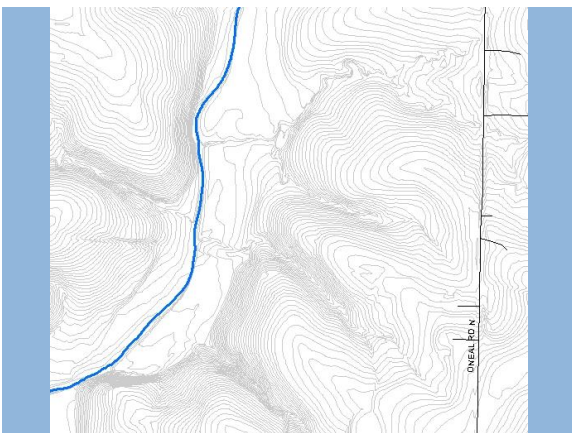
What Activities are Eligible for a Variance?

- Projects serving a public need where no feasible alternative is available.
- The repair and maintenance of public improvements when avoidance and minimization of adverse impacts to wetlands and associated aquatic ecosystems have been addressed.
- Undue Hardship Variances



Type I Streams

- Perennial streams
- Have a drainage area of 50 acres
- Solid blue line on the USGS map
- Example
 - Hinkson Creek, Perche Creek, Turkey Creek



Type II Streams

- Intermittent streams
- Have a drainage area of 50 acres
- Dashed Blue line on the USGS map
- Example
 - Meredith Branch of Hinkson, Callahan Creek of Perche



Type III Streams

- Ephemeral streams or natural channels that only carry water after a rainfall event
- Have a drainage area of 50 acres
- Not shown on the USGS map

- Example
 - Unnamed tributaries



Streamside Buffer Zone "NO MOW"

- Vegetation
 - Undisturbed

- Widths
 - Type I
 - Type II
 - Type III



Allowable Uses

- City of Columbia and Boone County
 - Flood Control
 - Road Crossings
 - Utilities
 - Selective Spraying
 - Stream Restoration
 - Removal of diseased or dead trees, brush and trash
 - Maintenance of city and county infrastructure



Allowable Uses



Photo courtesy of Irene Weirmann
Katy Trail Rocheport to Columbia

- City of Columbia
 - Hard-surfaced paths and recreation trails
- Boone County
 - Utility crossings
 - Permeable surfaced foot and bicycle paths



Prohibited Uses

- City of Columbia and Boone County
 - Clearing, grading, stripping
 - Filling or dumping
 - Ditching or under drains
 - Pesticides
 - Motorized vehicles



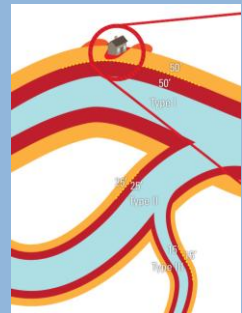
Prohibited Uses

- City of Columbia
 - Maintenance of livestock
- Boone County
 - Walls or fences
 - Structures or impervious surfaces



Outer Zone

- Vegetation
 - Type I
 - Type II & III
- Widths
 - Type I
 - Type II
 - Type III



Allowable Uses

- Boone County and the City of Columbia
 - Streamside Zone
 - Utilities
 - Hard-surfaced biking/hiking paths
 - Stormwater BMPs
 - Residential lawns



Prohibited Uses

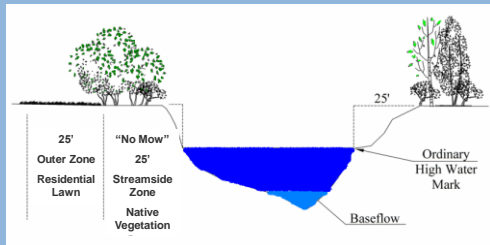
- Boone County and the City of Columbia
 - Structures or any type of impervious surface
- Boone County Only
 - Walls and fences
- City of Columbia Only
 - Septic Systems





Measuring from the Ordinary High Water Mark

The ordinary high water mark is that line on the shore that is established by the fluctuations of water.



Identifying the Ordinary High Water Mark

- Look for indicators such as an obvious transition zone on the stream bank
- In areas with steep banks, an erosion scour line usually highlights the ordinary high water mark.



Temporary Boundary Markers During Construction



Image courtesy of the Missouri Department of Conservation



Slope Delineation

Percent Slope	Width of Outer Buffer
0-14%	No Change
15% - 25%	Add 25 feet
Greater than 25%	Add 50 feet



Buffer Averaging Boone County

- The stream buffer width may be relaxed and the buffer permitted to become narrower at some points to allow for structures existing on June 1, 2009, provided:
 - The average width of the stream buffer meets the minimum requirements specified by buffer width and slope
 - There is no reduction in the width of the Streamside Zone
 - No new structures are built in the 100 year floodplain



Buffer Averaging City of Columbia

- The stream buffer width may be relaxed and the buffer permitted to become narrower at some points as long as the average width of the buffer meets the minimum requirement.
- Buffer averaging may be used to allow for the presence of an existing structure or to recover a lost lot, as long as the Streamside Zone is not narrowed.



Additional Setbacks

Entity	Hazard	Set Back
City of Columbia	Tilled land for crops	200 feet
City of Columbia	Raised septic systems	200 feet
City of Columbia	Drain fields from on-site sewage disposal and treatment systems	200 feet
City of Columbia	Confined animal feedlot operations	500 feet
City/County	Storage and use of hazardous substances	300 feet
City/County	Above-or-below ground petroleum storage	300 feet
City/County	Salvage yards or automobile recyclers	600 feet



Violations & Penalties Boone County

- Verbal notification
- Follow up by mail
- Schedule for remediation
- Violation goes to legal counsel
- Each day a violation continues counts as a separate offense
- Misdemeanor



Violations & Penalties City of Columbia

- Any condition prohibited by the Stream Buffer Ordinance is a nuisance.
- The abatement procedures and other provisions of Article IX, Division 4 of Chapter 12A Land Preservation apply to the Stream Buffer Ordinance.



Questions?