

Wildcat Creek Floodplain Management Plan

For Communities Along Wildcat Creek

1.0 Introduction

The Wildcat Creek Floodplain Management Plan is a living document for the local communities to use to manage flood hazards along Wildcat Creek. Managing these flood risks is a shared responsibility of the local communities, the county, the state, and federal agencies. This management plan was originally sponsored by the City of Manhattan, Riley County, the Kansas Hazard Mitigation Team, and the U.S. Army Corps of Engineers (USACE). The endeavor began as part of the USACE Silver Jacket program.

The Wildcat Creek Floodplain Management Plan should be considered a sub-part of the Riley County Multi-Jurisdiction Hazard Mitigation Plan, which is the local comprehensive emergency response and mitigation plan. The Hazard Mitigation Plan was approved by the Federal Emergency Management Agency (FEMA) on April 15, 2011, and was adopted by the Riley County Board of Commissioners on February 15, 2012 (Resolution 021511-D). The inclusion of this floodplain management plan, including the findings and the specific action items (and their timing), are an important hazard mitigation element for the Wildcat Creek flood hazards in the watershed. Future updates to the Riley County Multi-Jurisdiction Hazard Mitigation Plan should reference the Wildcat Creek Floodplain Management Plan as one of the pillars supporting the joint efforts and work towards a county that is more resilient to disasters. The Wildcat Creek Floodplain Management Plan will be a living document that will be regularly updated on an annual basis. Both plans are important for supporting the State of Kansas' broad, state-wide hazard mitigation efforts.

1.1 Description of the Area

Wildcat Creek flows towards Manhattan, Kansas, which has an area of approximately 16 square miles. In 2000, the population was 44,831, which represented an impressive growth of nearly 19% over the 1990 population of 37,712. In 2010, the population increased to 52,281 (16.6% growth). The City went from being the ninth-largest in Kansas to the eighth-largest, passing Lenexa (in the Kansas City metro area).

The broader Riley County area had a 2000 population of 62,843 and a 2010 population of 71,115. The community is dominated by two public institutions: Kansas State University, with about 24,000 students and 3,000 employees, and the U.S. Army's Fort Riley (just west of the city) with a base population of more than 18,500 assigned soldiers and over 25,000 family members. The number of active duty personnel at Fort Riley has increased substantially as a result of Congressional recommendations. Manhattan is also the primary service and retail center for several counties in the area, with more than 100,000 people being served. The City is situated along U.S. Highway 24 and State Highways 18 and 177, which link the area to Interstate 70.

Manhattan is located near the Kansas River with several major tributaries that connect in the vicinity of the City. The Big Blue River is on the east side of the City and the County, connecting to the Kansas River south of the City. The United States Army Corps of Engineers' (USACE) Tuttle Creek Reservoir is sited to the north of Manhattan on the Big Blue and is the eastern border of Riley County. Tuttle Creek is a major lake in the Kansas River basin lake system, which is critical to the USACE flood risk management mission for both the Kansas and Missouri Rivers. To the west is the USACE Milford Reservoir along the Republican River.

The 99-square mile Wildcat Creek watershed lies between the two USACE reservoirs mentioned above and flows through the western portion of the City and the southern portion of the County, emptying into the Kansas River. On the western edge of the watershed is a 34-square mile portion of the Fort Riley Military Base. The area within the basin is primarily rural and agricultural. Manhattan lies at the southeastern tip of the watershed: a point that receives all of the upstream rainfall. The confluence of so many rivers makes public awareness of flooding hazards an important issue (see Figure 1).

The challenging economy of the Great Recession has not slowed the westward push of development in Manhattan, known regionally as the “Little Apple.” The Manhattan Regional Airport is flourishing, with several flights each day to Chicago and Dallas. In addition, Fort Riley continues to be a strong presence as the home to the First Infantry Division and the new Irwin Army Hospital. Most notable to the development challenge is Kansas State University, the current site of the Biosecurity Research Institute, and the future National Bio- and Agro-Defense Facility (NBAF) which could add 300 new jobs to the area. Manhattan includes a centrally-located downtown and commercial area, which includes a regional shopping mall, major retailers, a conference center, and many businesses. Neighborhoods are generally located to the west of the downtown area, and a light industrial area within the eastern half of the City, which is located in Pottawatomie County. Since growth is strong, and proximity to potential flooding sources is high, any flood hazard mitigation efforts, including actions as well as plans for actions (such as this document), can be well justified with the public and political leaders.

1.2 Purpose of the Floodplain Management Plan (FMP)

The purpose of the FMP is to lessen the damaging effects of floods, maintain and enhance natural floodplain assets, and make effective use of water and related land resources within the floodplain. A community or a coalition of communities with a FMP in place will be more sustainable regarding its floodplain.

Sustainability means addressing the cumulative effects of development within and upstream of the floodplain. Sustainability also refers to the community being resilient to the natural occurrence of floods, because the community is able to avoid the impacts of flooding to its citizens and economy. An effective FMP should result in continued consideration of the flood hazard on the use of land and water resources in the floodplain, and provide benefits to the public and all levels of government, including:

1. Reducing loss of life, injury and hardship due to floods;
2. Reducing flood-related damages;
3. Reducing public expenditures for construction of additional flood damage reduction measures, emergency response actions, and post-disaster assistance; and,
4. Preserving and enhancing natural floodplain values for fish and wildlife habitat along with their attendant benefits of groundwater recharge, moderation of floods, water quality improvement, and reduced erosion and sedimentation.

A FMP attempts to balance benefits obtained from use of the floodplain with potential losses arising from such use. The comprehensive nature of such a plan stresses consideration of the full range of structural and non-structural measures potentially useful in achieving these objectives. The concepts contained in this guidance were developed to closely follow the 1994 Unified National Program for Floodplain Management.

Effective management of both floodplains and floodwaters, with sound policies, using appropriate physical features, allows the government to break the cycle of damage, rebuild, and achieve a sustainable flood risk management cycle (see Figure 2).

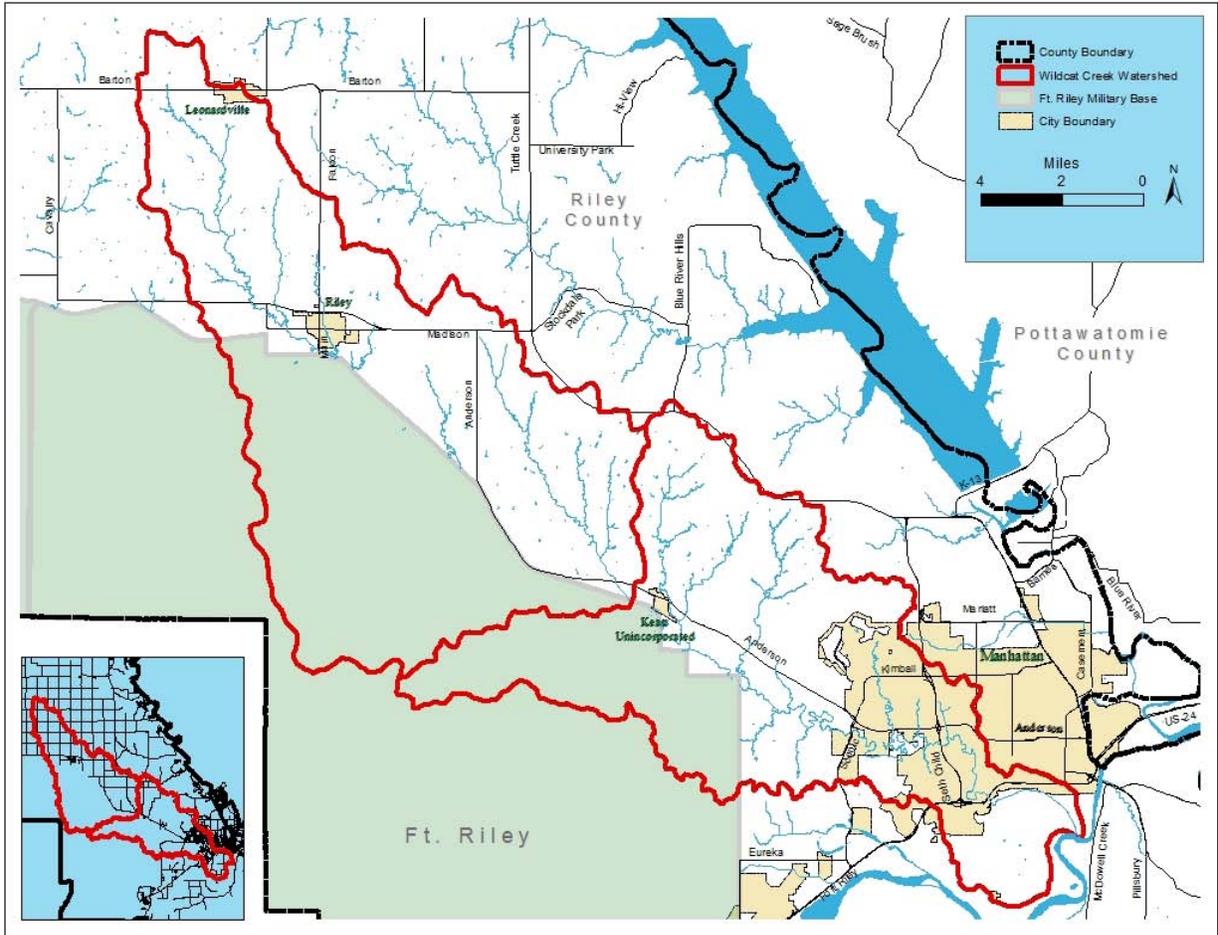


FIGURE 1. WILDCAT CREEK WATERSHED.

The local, state, and federal planners have prepared this FMP in similar fashion to the Federal standards. These standards originated with the Executive Order 11988, which began unified floodplain management in 1977. The standards are consistent with Public Law 104-303 of the Water Resources Development Act (WRDA) of 1996, which amends Section 402 of the WRDA of 1986 (also see 33 U.S.C. 701b-12; 100 Stat. 4133). The FMP has components that comply with the USACE planning guidance for floodplain management plans (USACE 2), as required when a cost share construction project has been started using the USACE funding for a project with flood risk management as a project purpose. In this case, no construction project or construction funding was involved; however, the Silver Jacket program authorized a pilot project for establishing an FMP that mirrors the standards. More importantly, this FMP meets the minimum standards for the Federal Emergency Management Agency's (FEMA) Community Rating System (CRS), Section 510 as described in the CRS coordinator's manual (FEMA, 2007).

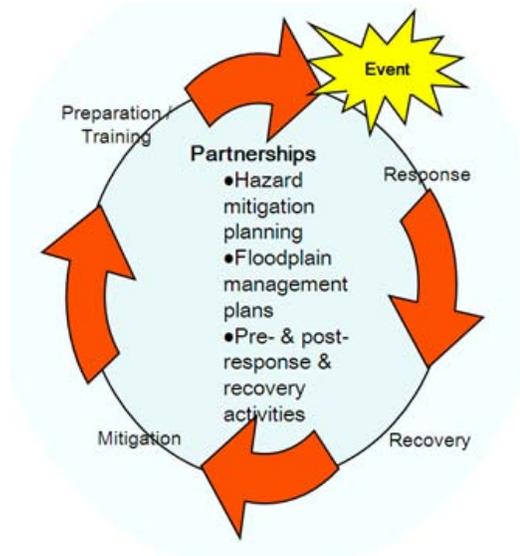


FIGURE 2. FLOOD RISK MANAGEMENT CYCLE.