Partridge Creek Watershed

Landowners along steep slopes: Guide to the Watershed Plan

Citizens of the Partridge Creek Watershed face extensive challenges with erosion and water quality. Soil eroding from forest areas, construction sites, agriculture fields, and stream channels collect in the streambeds and contribute an estimated 26,700 tons of sediment to Upper Peoria Lake annually. This document summarizes the Partridge Creek Watershed Restoration Plan and outlines specific practices that landowners along the bluffs can implement to reduce the risk of soil erosion on their property and protect the forests and local streams.

About Partridge Creek

Partridge Creek Watershed is a 17,842 acre drainage area of Woodford County. This rural area is located in Worth, Partridge, Cazenovia, and Metamora Town-

Watershed Statistics:

- Partridge Creek drops 360 feet in elevation over its 12-mile course.
- Including tributaries, the Partridge Creek Watershed drains 73.5 miles of streams.
- The watershed contains approximately 64 ponds and 2 lakes, the Izaak Walton and Wild Wind Lake.
- 49% of the watershed is agriculture, **27% is forested,** 20% is rural grassland and 4% is urban.
- Although only 2/3 the size of the neighboring Richland Creek Watershed, Partridge delivers 1.5 times as much sediment to Peoria Lake.

Scenic Partridge Creek Watershed with extensive forests and rolling hills.

Creating the Watershed Plan

In 2004 the Partridge Creek Watershed Planning Committee completed the *Partridge Creek Watershed Restoration Plan* with the intent to "develop and encourage the funding and implementation of a long-range watershed management plan... to reduce soil erosion, improve water quality, preserve natural habitats, protect farmland and encourage stewardship of the watershed.". **Planning committee members include elected officials, residents, farmers, environmental interest group members, and natural resource professionals**.

Watershed Challenges

- Today's **thick canopy, dark forests** are a degraded version of the open canopy woodlands and savannas that once existed. This change in the forest has accelerated ravine erosion and depleted habitat value.
- Soils on steep slopes are highly erodible and many **houses built adjacent to steep slopes** are threatened by eroding ravines.
- **Development on the bluffs** increases stormwater flows that causes gully and ravine erosion. Soil lost in the bluffs is deposited in Partridge Creek and the Illinois River at Peoria Lakes.

Development such as this in nearby Farm Creek Watershed can be problematic if erosion of slopes is not taken into account.

Forest and Steep Slope Management

For Landowners along the IL River Bluffs

Below is a summary of action items recommended in the *Partrdige Creek Watershed Restoration Plan*. More information is available on this subject at Tri-County Regional Planning Commission's website. Please visit www.tricountyrpc.org

Allow sunlight to reach forest floors

According to vegetation studies conducted in the year 1820, the Illinois River Bluffs once consisted of open woodland/savanna habitat with an average tree density of **32 trees/ha.** Dominant trees were oak and hickory species. Early European observers experienced the River Bluffs as a rich tapestry of native grasses, wildflowers, sedges and other plants. Today tree densities can range from **280 – 470 trees/ha.** with little to no grasses or wildflowers. Unfortunately, these trees to do not hold the soil in place like the blanket of vegetation that once existed. As a result erodible, bare, steep slopes are being washed into Partridge Creek and the Peoria Lakes.

Why this dramatic change in the last 200 years? A necessary disturbance for the persistence and continual rejuvenation of the open woodland and savanna along the bluffs has been all but eradicated upon European settlement. Fire once played an integral role in maintaining the vegetation on the bluffs. Wildfires cleared the landscape in drought conditions and Native Americans burned the forest to maintain a vital food crop and open the lands for hunting. The bluffs responded to a discontinuation of fire with an explosion in tree and shrub populations.

The photo above depicts an area without forest management. Invasive species have taken over, creating a dark, closed canopy that cannot support underlying vegetation.

- Manage forested areas to open the canopy and allow the growth of ground cover necessary for slope stability. Cut or girdle 80% of undesired tree species (i.e. sugar maples) that are under 8 inches diameter at breast height. Completely remove all non-native invasive plant species such as autumn olive, honey suckle, multifora rose, and garlic mustard.
- Maintain open forests by removing undesirable saplings by pulling or conducting professional prescription burns about every three years. Areas that are not maintained generally return to "pre-management" conditions by year five.
- Case studies in Peoria Park District bluffs have indicated that no seeding is necessary to grow grasses and flowering plants on virgin soils. Even after 80 years seeds and root systems are still viable and ready to grow! Fill material will need seeding.
- DO NOT DUMP YARD WASTE IN FORESTED AREAS. Yard waste prevents the growth of deep rooted vegetation that anchors your soils. Contrary to popular belief, dumping yard waste in ravines does not slow erosion, but only hides the problem from site.

Forest management, as depicted in the photo above, opens up the canopy and allows for the growth of groundcover that is necessary for slope stability.

Stewardship from your residence

Concentrated stormwater runoff from developed areas can cause substantial damage to ravines if the site is not properly engineered. Reduce your stormwater runoff by using rain barrels, planting rain gardens and native vegetation along slopes, and implementing other best management practices. See the "Central Illinois Homeowner's Guide to Stormwater Best Management Practices" from the TCRPC website for more information.