A History

of the

Whitewater Watershed

in Minnesota

Mission

The mission statement developed by watershed citizens and adopted by the Whitewater Joint Powers Board:

The Whitewater River Watershed Project exists to continue to nurture a land stewardship ethic amongst those that live, work, and recreate in the watershed. The project will focus on improving water quality, reducing sedimentation and flooding, and improving habitat for all plants and animals. The project will accomplish this mission by developing a partnership among watershed citizens, governmental agencies, environmental groups, and businesses. The Whitewater Watershed Project recognizes the importance of private property rights and is committed to maintaining the agricultural economic backbone of the watershed.

PRE-EUROPEAN SETTLEMENT

During the ice ages, the Whitewater River carried large amounts of runoff from melting glaciers to a wide and deep Mississippi River. This runoff etched valleys into the limestone, carving out the blufflands and depositing sediment in huge alluvial fans and beach terraces. These prominent features contribute to the beauty of the Whitewater Valley.

In pre-settlement times, the Whitewater River straddled one of the richest landscapes in North America - the transition zone between eastern hardwood forests and western tall grass prairies. Pre-settlement vegetation consisted of hardwood forest, oak savanna, and prairie.

The topography of this region remains very diverse. It includes gently rolling uplands that give way to steep bluffs, rock outcrops, sinkholes and limestone caves. These geographic features are typical of a karst (fractured limestone bedrock) landscape. The limestone bedrock is overlain predominantly by highly erodible loess soils.

SETTLEMENT . . .

The Mississippi River was well known by the 1840's. Explorers made maps, traders interacted with the local Indians, and "wood hawks" chopped trees to fuel the river boats.

Settlement was limited to the Mississippi river corridor. Until the treaties of 1851, which opened up most of Southern Minnesota to white settlement, there was little known about the interior lands.

. . . AND FARMING

Wheat farming had its start in this area in 1853 with two acres of crop, and by 1859 riverboats shipped 130,000 bushels of wheat from Winona. In 1868, Winona was the nation's fourth largest wheat market. The fertility and productivity of newly broken ground invited the conversion of acre upon acre from forest and prairie into cropland.

The newly-broken soil was so rich that farmers planted wheat in the same fields year after year. They overlooked the necessity of using manure and rotating crops to maintain the soil's fertility.

Over time, with the decrease in soil fertility the wheat was attacked by a fungus known as rust, leading to the failure of the crop in 1878. The wheat failure spurred the transition from wheat to raising corn, oats, barley, and dairy cattle.

During the early years of settlement it was said a person could stand on the bluffs overlooking the valley and see fish swimming in the river below. Early settlers said the Whitewater River never left its banks except during the spring snow melt. Even after a spring cloudburst, the water would run high, but clear.

As the years passed, more forest was cut to make room for crops and pasture, and plows extended crop fields to the bluff edges. Farmers burned the hillsides and turned their cows and sheep out to graze. Continuous cropping had exhausted the organic matter in the soil, reducing its capacity for absorbing and retaining precipitation.

By 1900 the valley was changing. In less than fifty years the Whitewater River Valley had been transformed from pristine wilderness into a valley of 100 farms and 5 towns.

Town of Beaver—1800's

FLOODS BEGIN

The deterioration and degradation of soils in the upland areas contributed to the valley experiencing its first land use related flood in 1900. By the 1920's, flooding was becoming intolerable. Farms and small towns along the Whitewater River Valley were being flooded up to 20 times per year. Low lying fields and homes were buried under 15 feet of eroded sand and

silt, and the once prosperous towns of Beaver and Whitewater Falls were eventually abandoned. Bridges were washed out and had to be repeatedly rebuilt, highway ditches and culverts became perpetually clogged with sediment and debris; repair and maintenance costs were out of control. Elba, which was once situated on high ground, survived only under the protection of dikes. Finally, in 1938 the Whitewater River flooded 28 times.

In 1931, the Izaak Walton League of Minnesota, with the support of various local organizations, petitioned the Conservation Commission to establish a game preserve in the Whitewater River Valley. In 1932, the new Department of Conservation purchased the first parcel of land, where the Crystal Springs Trout Hatchery now stands. The farm land was no longer productive and many farmers were relieved that the State of Minnesota would buy their land, even at a loss. In 1930, workers tearing down the old barn at Crystal Springs discovered the cattle had actually been standing on the hayloft floor; the entire first story was buried under sediment.

Richard J. Dorer

Many people influenced watershed landuse over the years, and Richard J. Dorer stands out as such a person. He began working for the Minnesota Department of Conservation in 1938, the year the Whitewater left its banks 28 times. He saw the devastation erosion and siltation were causing, and he was passionate about protecting the land and the river.

He began purchasing land as the state administrator of federal wildlife funds. Then in 1943, after building public support, his proposal was approved to purchase 38,000 acres along the Whitewater River for a wildlife area.

Dorer, together with state foresters, wildlife managers, and the Soil Conservation Service, set out to control erosion on this new wildlife land. They planted grasses, shrubs and trees in the valleys and on the slopes. On the ridge tops they changed the cropland to contoured fields around the slopes and built diversion dams at the top of gullies.

Dorer designed a complex system of dikes to retain runoff in the Whitewater River valley in three pools. This system is known today as the Richard J. Dorer Pools. These measures were part of a great experiment to control erosion and improve soil health. The lessons learned helped change land use in the watershed, and preserved a treasure of public land for the enjoyment of all.

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A ridge top farm that was purchased for $16,000 in 1916 was sold to the state in 1946 for $4,000. The farmer believed frost had heaved up rocks and gravel. He did not realize that planting corn up and down the hills led to the loss of all the top soil.

One of the finest farms in the valley had once been worth $50,000, but over the years its owner helplessly watched as silt and floodwaters destroyed the productivity of the fields. He eventually sold his farm to the state for $5,000.

Old Ellringer Farm, Elba

Conservation measures received a boost when President Franklin Roosevelt designed many new programs that became known as the "New Deal". One of these programs was the Civilian Conservation Corps (CCC), which began in 1933. The CCC crews did forest management work, erosion control, and constructed buildings and bridges. Many stone structures built by the CCC can still be seen today.

Another result of the "New Deal" was the creation of the Soil Erosion Service (SES) to provide assistance to farmers for soil conservation. The SES was later renamed the Soil Conservation Service and is now known as the Natural Resources Conservation Service.

CCC crew building a gully control structure

Bill Sillman

Bill Sillman was a pioneer of farmland conservation in Southeast Minnesota. When Bill saw a federal report in the mid 1930's that indicated U.S. farmers were under-producing, he decided to take an active role by becoming the first Soil Conservationist in Winona County with the newly created Soil Erosion Service.

His first project was to demonstrate the benefits of strip-cropping, contour strips, and other conservation practices in Gilmore Valley, Winona County. Working against great skepticism, he was able to start the demonstration in 1935. There was a drought in 1934 and again in 1936. At the end of the 1936 season the farmers in the project area had harvestable crops and enough hay for the winter. This was not the case for many farmers outside the project. As farmers learned of the project's success they wanted more information about improving their land.

In 1938, the first Soil and Water Conservation District for Minnesota was formed with Bill leading the way. In three years Bill was overseeing all of Winona County, which included four watersheds. Bill worked in this area until his retirement in 1973, and even then remained active talking to service clubs, school classes, and leading tours of the area.

Bill became concerned in later years, as he watched farm land change ownership or get rented out, and he saw that many conservation structures and practices were no longer being maintained.

RECENT YEARS

Having implemented conservation practices, both with and without government assistance, many landowners today know the importance of good conservation - for themselves and for future generations.

Conservation Tillage: Ridge Till

Conservation in the Whitewater River Watershed today is the result of a commitment by landowners; local, state, and federal conservation officials; and citizens of Minnesota to restore the watershed.

Grade Stabilization Structure / Pond

The Whitewater area has become one of the most economically important outdoor recreation and tourism destinations in Minnesota, and many area residents have become conservation leaders in their own right. However, change in land ownership and land-use over the past thirty years has led to subtle reversals to the land stewardship progress made earlier. There are fewer animals on area farms, resulting in less small grain, less grass and fewer acres of alfalfa. A simultaneous increase in soybean acreage has led to less organic matter, less ground cover, and more soil erosion.

WHITEWATER WATERSHED PROJECT

Over the past 30 to 50 years, improved land stewardship has made a marked improvement in the Whitewater River Watershed, yet there continues to be a need to build a stronger conservation ethic – and to support that ethic with appropriate government policies. Recent changes in land use toward less livestock, less hay, and more row crops have led to setbacks in land and water quality gains.

Water quality degradation, particularly sedimentation from eroding farmland, is a major problem affecting the watershed. In spite of significant successes over the years, the river still ranks near the top of U.S. Geological Survey's Minnesota streams with severe erosion and sedimentation problems.

Recent watershed activities were initiated in 1987 as a pilot project on the Middle Branch of the Whitewater River, leading to the formation of the Whitewater River Watershed Project.

A priority of the Whitewater Watershed Project is conservation implementation in upland areas, seeking to reduce soil erosion, increase water infiltration, improve soil quality, slow runoff, and result in a more gradual hydrologic response in the streams.

A Joint Powers Board (JPB) of Soil & Water Conservation Districts and County Commissioners work together towards project goals, focusing on education, technical assistance and financial assistance within the watershed.

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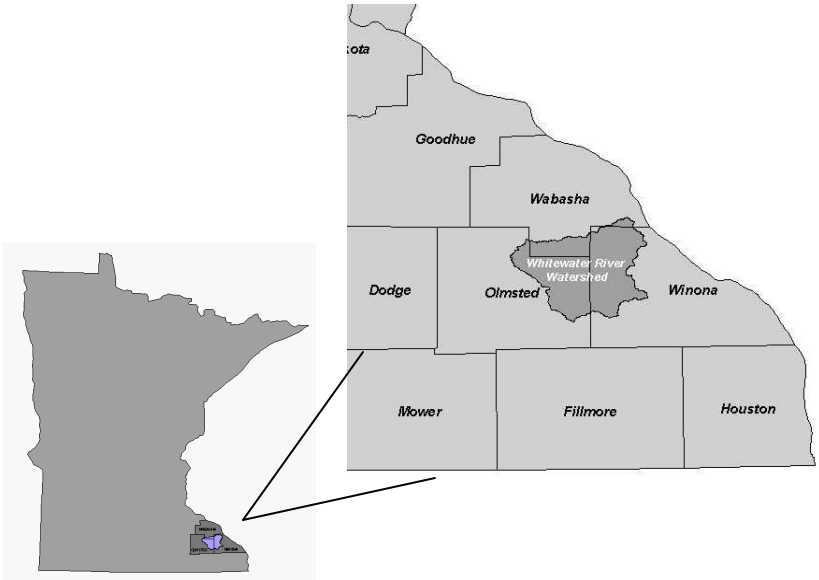

"Water links us with our neighbor in a way more profound and complex than any other."

- John Thorson-

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