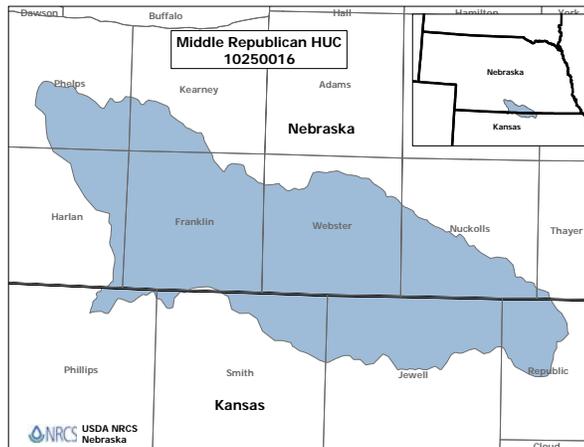




Middle Republican HUC#: 10250016

Introduction

The Middle Republican HUC is located in south Nebraska and north central Kansas. It covers the counties of Nebraska, Phelps, Kearney, Harlan, Webster, and Nuckolls and the counties of Smith, Jewell and Republic in Kansas. The total acres of the entire watershed are 1,399,835 acres: 961,514 acres in Nebraska and 435,321 acres in



central following Franklin, Phillips, surface with Kansas.

Physical Description

The Middle Republican Watershed area consists mainly of soils that have formed in silty loess on uplands. Slopes are very gently sloping to steep and slope to the south towards the Republican River Valley. Upland areas contain loamy and silty soils and are also very gently sloping to steep.

Soils within this watershed consist mainly of silty soils on loess uplands with loamy soils found south of the Republican River Valley. Soils in the upland areas are well drained to moderately well drained soils.

The watershed contains approximately 1,574 farms with approximately 1,152 farms covering in Nebraska and an estimated 422 farms in Kansas. Land uses in this watershed consist of irrigated cropland, dry land cropland, and pastureland. In 2002 an estimated 436,752 acres were harvested in Nebraska and 160,402 in Kansas. Approximately 304,179 acres of this watershed were used primarily for pasture/range land in Nebraska and approximately 96,778 acres in Kansas. There are approximately 19,185 acres in CRP thru sign up 29 in Nebraska and approximately 12,870 acres in Kansas.

Irrigated acres in Nebraska were estimated to be 248,321 for 2002 and included both pivot and surface irrigated fields and approximately 11,425 acres in Kansas.

Common Resource Area:

The Middle Republican watershed lies within CRA Area 75 and CRA Area 73.

CRA 75

Nearly 2/3's of CRA 75 area is in crop production. Hard winter wheat and grain sorghum are the main cash crops, but large acreages are planted to other small grains and hay. Corn is a major cash crop in the north. Most of the corn is irrigated by water from wells or canals. About one-fourth of the land is rangeland or pastureland grazed by beef cattle.

Average annual precipitation is 625 to 750 mm. Maximum precipitation is from mid-spring to mid-autumn. The low winter precipitation is snow. Average annual temperature 10 to 14 C, increasing from north to south. Average freeze-free period 160 to 190 days.

Native Vegetation consists of mid and tall grass plant communities. Big bluestem, little bluestem, switchgrass, indiangrass, and sideoats grama characterize the vegetation on silty upland soils. These grasses and western wheatgrass are on bottom lands and in upland basins.

CRA 73

Nearly all this area is in farms, and about three-fifths is dry-farmed cropland. Winter wheat and grain sorghum are the major crops in much of the area, but corn is important in the north. Feed grains and hay are other major crops. About 2 percent of the area, mostly narrow bands of bottom land and terraces along the Republican and Platte Rivers and their major tributaries, is irrigated. Corn, alfalfa, small grains, and hay are the principal crops grown on irrigated land, but some potatoes and vegetables are grown. One-third or more of the area is in native grasses used for grazing.

Average annual precipitation 500 to 625 mm. Maximum precipitation is from midspring to early in autumn. Precipitation in winter is snow that ranges from about 45 cm annually in the south to 60 cm in the north. Average annual temperature 10 to 13 C. Average freeze-free period—150 to 180 days, increasing from northwest to southeast.

Native Vegetation consists of little bluestem, big bluestem switchgrass, western wheatgrass, and sideoats grama characterize the vegetation on loamy soils. Blue grama, buffalograss, and western wheatgrass characterize the vegetation on clayey soils on uplands.

Common Land Unit

FSA's CLU layer is available for the entire Middle Republican watershed area.

Resource Concerns

Major resource concerns for this watershed are: Soil Quality, Water Quality, Surface & Ground Water Quantity. Other concerns are Rangeland/Grasslands, Wetlands, Wildlife, and Forests. Water erosion and soil blowing are the principal hazards on the upland soils within this watershed. An insufficient amount of rainfall for crops is a concern during most growing seasons. Measure that conserve water by controlling runoff and measure that maintain the fertility level of the soils are the chief management needs. Measures that control soil blowing and improve tilth and fertility are important management needs.

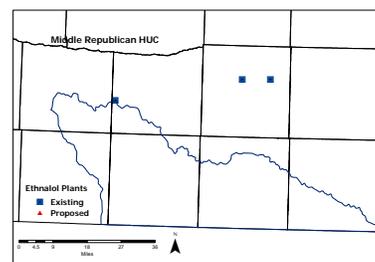
Studies or Assessments

The Nebraska portion of the watershed currently has Ethanol – 25 miles of this watershed. This provides another economic incentive for corn producers for their crops.

The Nebraska Department of Environmental Quality has portions of the Republican River as being impaired in its 2004 Surface Water Quality Integrated Report. The category level is a level 5 which is defined as: Water bodies where one or more beneficial uses are determined to be impaired by one or more pollutants and all of the TMDLs have not been developed.

The Nebraska Department of Natural Resources has imposed Well Moratoriums within the southern portion of this watershed. This restricts the drilling of new wells within the identified areas of this watershed.

This watershed also lies within a Ground Water Management Area in the northern portion of the watershed where the management concern is ground water quality.



plants within 5
incentive for

identified

Census & Social Data

Agriculture is one of the main income sources for the communities within this watershed. It was estimated that in 2003 there approximately 1,382 workers engaged directly in the production of agricultural commodities, either livestock or crops; whether as a soil proprietor, partner, or hired laborer. Of the estimated 1,152 Nebraska farms within this watershed, approximately 1,121 are owned and operated by Sole Proprietors who are either employed in farming full or part time. Average net farm income from agriculture in 2002 was \$18,045 per farm and average production expenses were estimated to be \$78,155 per farm. The average market value per farm of land and buildings in 2002 was \$276,514 within this watershed.

Operator characteristics are as follows for this watershed: Most farms are owned by males with the average age of principle operators being 52.7 years of age. There are approximately 131 Nebraska Limited Resource Farmers within this HU.

NRI or Progress Data

Conservation activities include the following for 2004: Conservation practices were applied to 21,771 acres across all resource concerns in Nebraska and approximately 6,036 acres across all resource concerns in Kansas. Specifically conservation practices were applied on 17,470 acres of cropland in Nebraska as approximately 2,172 acres in Kansas.

PRMS Profile for Middle Republican 8 Digit HUC - 10250016							
PRMS Data	1999	2000	2001	2002	2003	2004	2005
Planned	7,181	16,027	14,677	24,921	25,249	NA	49,153
Applied	6,166	11,506	12,965	35,294	22,154	NA	58,245
All Customer Types	2,786	2,723	2,012	1,644	3,699	NA	383
Conservation Treatments Applied							
Contour Buffer Strips (332) (ac)	9	54	84	116	78		
Reduction in the Acreage of Cropland Soils Damaged by Erosion (Ac.)	1,684	1,268	6,945	2,819	5,107		23,568
Field Border (386) (ft)	0	3,850	1,050	0	0		15,843
Filter Strip (393) (ac)	8	15	60	29	29	24	
Grassed Waterway (412) (ac)	0	0	2	8	14	15	10
Nutrient Management (590) (ac)	839	2,688	2,226	5,506	9,041	20,130	42,627
Pest Management (595) (ac)	891	4,652	5,714	6,092	9,423	24,962	43,248
Prescribed Grazing (528) (ac)	4,536	2,282	6,619	9,777	11,759	4,520	3,511
Prescribed Grazing (528A) (ac)							1,216
Residue Management, (329A-C) (ac)	269	567	4,762	3,562	8,698	213	32,550
Tree/Shrub Establishment (612) (ac)	71	6	2	6	8	83	7
Wetlands Created, Restored, or Enhanced (657, 658, 659) (ac)	0	0	24		21	106	133
Total Wildlife Habitat (644, 645) (ac)	1,868	1,567	5,275	1,672	4,462	2,703	2,313
Irrigation Water Management (449) (ac)	4,578	4,422	5,098	11,711	16,806	20,143	39,721
Windbreak/Shelterbelt (380, 650) (ft)	96,851	31,899	96,851	34,386	15,225		2,850
Terrace (600) (ft)	NA	NA	NA	NA	NA	67,953	71,486
Fence (382) (ft)	NA	NA	NA	NA	NA	85,709	64,746
Conservation Crop Rotation (328) (ac)	NA	NA	NA	NA	NA	26,670	43,407
Pipeline (516) (ft)	NA	NA	NA	NA	NA	55,079	45,243