LAND USE

Historical Land Use

The basin's first inhabitants, Native Americans of the Fox, Sac, Illinois, Missouri and Iowa tribes, and white explorers, exerted little pressure on the land and its natural resources. Intensive land use came to the basin after it was settled by European immigrants in the early to mid 1800s. The first homesteader arrived in Randolph County at the southern end of the basin in 1818. Settlers that followed moved slowly northward to settle Putnam County by 1845. The first immigrants in any area of the basin settled on the hillsides where timber was easily accessible. The grasslands were used for open range (SCS 1995, 1994, 1989).

Prior to settlement, it was reported that as much as 70% of the basin was forested (St. Louis Historical Co. 1884). Railroads were built shortly after the organized settlement of the basin in the mid 1800s. This stimulated the commercial sale of many of the basin's natural resources. Coal mining began at this time, but did not peak as an industry until 1900 through 1925 in Randolph, Macon, Adair and Putnam counties (SCS 1995, 1989; Kirksville-Adair Co. Bicentennial Committee 1976; History of Adair, Sullivan, Putnam and Schuyler counties 1888). Railroads and coal mines produced a great demand for timber in the form of ties, pillars and props. By the end of World War I there were no extensive stands of virgin timber left in Adair County (Kirksville-Adair Co. Bicentennial Committee 1976).

Modern Land Use

Over 80% of the land in the Chariton River basin is used for commodity production (Figure 4).

At the turn of the Millennium, 43% of the basin was in hay or pasture, including lands enrolled in the Conservation Reserve Program (only 21% hay/pasture in 1982; USDA), 38% was in cropland (53% in 1982), 15% was forested, including grazed woodlands (17% in 1982), and 4% was used for other purposes (municipalities, roads, impounded water etc.) (NRCS district conservationists in Putnam, Adair, Macon, Chariton and Randolph counties, pers. comm.). Changes over the past two decades likely reflect some conversion of highly erodible cropland to CRP or idle ground, and would support the recent reduced soil erosion findings.

In general, the level ridge tops and floodplains are used to grow crops. Hayland and pasture occur on the hillsides as well as the ridgetops. Forested land can be found along small and larger streams, on hillsides and ridges, but is not a predictable part of any landform. The Mussel Fork Creek subbasin is more heavily forested than the remainder of the Chariton River Basin.

The predominant type of farming changes from hay and livestock production in the northern Missouri portion of the basin to grain crop production in the basin's southern reaches, and is reflected in the annual production record for each county. Putnam, Adair and Macon counties are among the top hay-producing counties in the state (Reddick 1992). Beef cattle numbers are also highest in the northern reaches of the basin; Putnam County supports over 25,000 head.

Row crop production predominates in the southern reaches of the basin; Macon and Chariton counties are among the top soybean producers in the state, and Chariton county is among the top ten producing counties for soybeans as well as corn and wheat (Reddick 1992).

Corporate hog farms now dwarf the production of private hog farmers. Prior to the development of corporate farms, there were roughly 56,000 hogs produced annually basin-wide. Though there are fewer small family hog farms today, corporate farmers alone have boosted this annual production figure by approximately 270,000 head, to a herd size of 326,000 in the late 1990s – roughly equivalent to a human population of 1.2 million (calculations based on 250-pound average finished hog, and 15 people equivalent to 1000 pounds of swine, T. Chockley, DNR, pers. comm.).

PSF-ContiGroup (formerly Premium Standard Farms) has three large farms and an increasing number of consignment farms within the basin. Each PSF-owned farm has a number of lagoons which hold the excrement from up to 8,800 hogs. Average drawdown on each lagoon is approximately 4.2 million gallons; the finished effluent from one lagoon is applied to a 110-acre field. Whitetail Farm, located in north central Putnam County, has the capacity to raise 105,600 head to marketable size, and produces up to 50.4 million gallons of waste annually in 12 lagoons. In the event of a spill, the receiving stream would be a third- or fourth-order tributary to fifth-order Little Shoal Creek, or first- through third-order tributaries to fourth-order North Blackbird Creek. The Valley View Farm in eastern Sullivan County can raise up to 88,000 head and produce up to 42 million gallons of waste annually in 10 lagoons. These facilities drain into either first- through third-order tributaries to, or directly to, fourth-order Mussel Fork Creek. Green Hills Farm, in northeastern Sullivan County, has 9 lagoons which treat 37.8 million gallons of waste from 79,200 head annually. The receiving stream is second- or third-order Spring Creek just upstream of Union Ridge Conservation Area.

The majority of the basin's forest resources are of poor quality and generally are not valued enough to be managed to their full potential (USDA 1982). Though inventories show 15% of the basin is forested, as much as 66% of this is grazed – one reason for the poor quality of forested lands. From the mid 1950s through the mid 1980s, clearing of forested land by bulldozer was common enough that forest cover was reduced significantly in the lower Chariton River basin (G. Crowder, District Conservationist, Chariton County, pers. comm.) Though not a common practice for the past 15 years, one large area in southeastern Putnam County (Gillum Ranch) was cleared significantly in order to create pasture. The drainages affected were Kinney Creek, South Blackbird Creek and the upper reaches of Shuteye Creek (L. Sell, MDC, pers. comm.).

Soil Conservation Projects

Publically financed soil conservation projects are occurring on less than 3 percent of basin lands (Table 6).

Public Areas

There is a wide variety of public land within the Chariton River basin. Several areas offer access to major basin streams. Concrete boat ramps have been built at two locations on the unchannelized Chariton River within Rebel's Cove Conservation Area (CA), at Archangel Access on the lower end of the unchannelized Chariton at U.S. Highway 136, at Mullanix Ford Access in southeastern Putnam County on the channelized Chariton, and at Dodd Access in Macon County, also on the channelized Chariton. Two areas await further development on the channelized Chariton River (Truitt Access and Elmer A. Cook Memorial Access in Adair County), and two areas remain completely undeveloped (Keytesville Access and Price Bridge Access in Chariton County). There is a concrete boat ramp at Lewis Mill Access on the Little Chariton River. Mussel Fork CA offers access to Mussel Fork Creek via a nearby parking lot. Bee Hollow CA on East Fork Little Chariton River has no stream access developments planned.

Table 6. Ongoing and proposed soil conservation projects within the Chariton River basin. Earth projects are funded by local Soil and Water Conservation Districts.

County	Salt Project	PL-566 Project	Earth and Other Type Projects
Chariton	Jones Branch (5,000 A)	--	Bee Branch (20,000 A)
Macon	Painter Creek (3,500 A)	Middle Fork Little Chariton[a] (9,500 A)	--
Putnam	Turkey Creek (3,070 A)	Blackbird/Wildcat creeks[i] (101,200 A)	--
Randolph	Silver Creek[a] (30,000 A)	Middle Fork Little Chariton[a] (95,500 A)	Sugar Creek Lake[P] (8,000 A)

[a]Active application awaiting priority
[i]Inactive application
[P]319 Water Quality Project

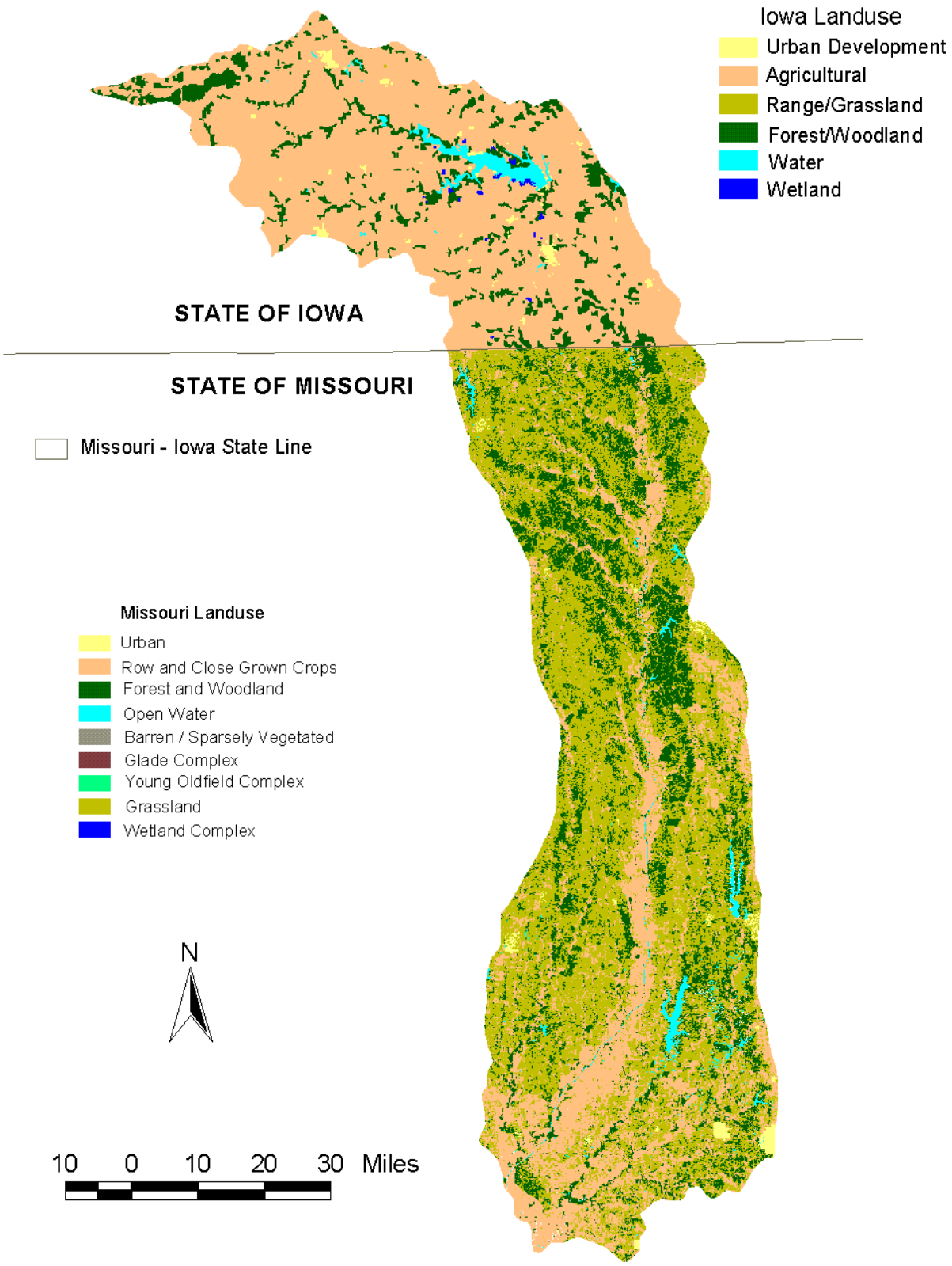

Figure 4. Land use in the Chariton River Watershed, in Missouri and Iowa