

Medium Prairie River



Frenchman Creek (B006) riffle habitat in the BLM badlands



Battle Creek (B006) run/pool habitat north of Chinook, MT



Little Powder River (B005) run/pool habitat near Broadus, MT

Aquatic Ecological System Type B005, B006 and B008

View key to subtypes

Community Description

Summary:

This ecosystem is found widely throughout the Great Plains region of Montana, including many occurrences in the Northern Glaciated and the Northwestern Great Plains Ecoregions. Often these are direct tributaries to the Missouri and Yellowstone rivers, but can have connectivity to other Large Prairie Rivers first, such as the Little Powder River to the Powder or Battle Creek to the Milk River. These are larger (4th and 5th order rivers, >100 river miles long, average wetted width of 15m), perennial warm-water, unconfined valley bottom rivers, but are considered wadeable in most reaches by the summer months. In the low to mid-elevation (750-1200m) channels with low gradient they contain long runs and continuous pools (1-1.5 m), and in the moderate gradient sections they contain frequently interspaced riffles maintaining connectivity throughout the year, although riffles may be absent in incised and degraded channel sections. Substrate characteristics are typically cobble/pebble riffles (when present) to gravel dominated runs and silted pools. Large woody debris, deep pools and undercut banks in the lower reaches of these rivers provide substantial fish habitat. During spring and early summer, lower sections of these rivers offer spawning and nursery habitat for sauger, walleye, channel catfish and other Large Warmwater Assemblage fishes.

Fish Community:

The members of the resident fish community consist of the Large, Medium Warmwater, Sunfish, Creek Chub and Core Prairie Stream Assemblages. The community indicator species include fewer species of the Large River assemblage, except at the confluence areas, and are characterized predominately by the native minnow and sucker species of the Medium Warmwater Assemblage: fathead minnow, lake chub, flathead chub, plains silvery minnow, western silvery minnow, white sucker, and shorthead redhorse. In the deeper runs and pools, river carpsucker and channel catfish occur, as well as the introduced species, walleye, northern pike, black bullhead, carp and green sunfish. The riffle areas are inhabited by longnose dace, flathead chub and if there are large cobbles, stonecat. The prairie rivers of the Northern Glaciated Ecoregion (B006 and B008) are more likely to contain introduced northern pike, black bullhead and yellow perch, while the Northwestern Great Plains rivers (B005) will more likely have introduced green sunfish, crappie, yellow bullhead and rarely, smallmouth and rock bass.

Macroinvertebrate Community:

This community consists of members of the Large Prairie River, Prairie Stream and Filtering Collector Assemblages in the riffles, as well as Prairie Stream, Large Prairie River Slow Current and Medium Prairie River Side-Channel Assemblages in other habitats. The community indicator species are characterized by main channel riverine dragonfly species (*Ophiogomphus*), damselfly genera (*Calopteryx* and *Heterarina*), mayflies (*Leucrocuta*, *Stenonema terminatum*, *Isonychia*, *Fallceon quilleri*, *Ephoron album*, *Tricorythodes* and *Caenis latipennis*), caddisflies (*Hydropsyche morosa* group, *Cheumatopsyche* and *Polycentropus*), numerous Corixidae, and mussels - fatmucket (*Lampsilus siliquioda*) and the side-channel mussel, giant floater (*Pyganodon grandis*).

Range:

The Medium Prairie River type occurs throughout the Great Plains region of North America within the Missouri River Drainages. In the Montana Glaciated Plains Ecoregion, Redwater River, Frenchman, Rock, Battle, Lodge, Poplar, Wolf, Big Muddy and Beaver Creeks are examples. In the Northwestern Great Plains, examples include the Tongue, O' Fallon, Mizpah, Pumpkin, Rosebud, Little Beaver and Beaver Creeks.

Management:

Small dams, water diversions, stock ponds and introduced gamefish species have had the most significant negative impact on this community (Winston et al. 1991). Anywhere dams occur, the downstream reaches are affected by altered water temperatures, introduced fish, unnatural water level fluctuations, and changes in sediment and nutrient transport.

Global Rank: GU**State Rank:** S4**Global/State Rank Comments:**

Good quality occurrences in Montana are common, but the native fish community suffers from fish introductions and homogenization. This community contains creek chub (a potential Species of Concern) in the far eastern Montana drainages. Within the Northern Glaciated Ecoregion of Montana, the community contains pearl dace (S2, Species of Concern), and three Potential Species of Concern: Iowa darter, plains minnow and stonecat. The occurrence of at-risk or potentially declining fish and macroinvertebrate species may cause long-term concerns for this ecosystem and indicate a rank of S4.