

photo by B.C. Delaney MN DNR



Carlton County, MN

General Description

River Shore (RV) communities occur along the shorelines of rivers and streams throughout Minnesota in the riparian zone between annual low water level and the upper limit of impacts from currents and ice-scouring. RV communities are inundated annually during spring flooding and following heavy rains. Most RV communities are sparsely vegetated because of absence of well-developed soils and frequent disturbance from flooding, ice-scouring, and strong currents. They are usually narrow, not more than a few meters wide. Substrates range from silt to loose sand, gravel, cobbles, and bedrock. Soil development is minimal. The RV System includes plant communities on slumping clay river embankments well above high water levels and dry streambeds of intermittent streams, as well as river shoreline zones. RV communities are common throughout the Laurentian Mixed Forest Province except in the large peatland landscapes of the Agassiz Lowlands Subsection in MOP and the Tamarack Lowlands Subsection in MDL.

Structure and Disturbance Regime

The vegetation of RV communities usually has a distinct upper zone and one or more lower zones. These zones are caused by differences in severity of erosion and in timing of exposure of sediments as river levels drop during the growing season. The upper zone often experiences severe erosion from ice-scouring and strong currents during spring breakup and flooding. Consequently, perennial plant species cover is sparse in upper zones, consisting of only a few species tolerant of inundation and physical fragmentation. Annual species, however, can become common on exposed sediments after floodwaters recede. The lower beach zones, which are exposed later in the growing season, support terrestrial forms of perennial aquatic species and other species that can survive long periods of inundation or produce seeds that remain viable buried for long periods in sediments.

The most common pattern of disturbance in RV communities is repeated erosion and deposition of materials by currents and ice-scouring. These disturbances result in removal of organic matter and nutrients from substrates along river shores, as well as removal or burial of vegetation.

Floristic Regions

The floristic composition of RV communities has not been systematically surveyed in much of Minnesota, so there are currently no recognized Floristic Regions within the RV System.