

Natural soil drainage & overflow conditions

Natural soil drainage classes represent the moisture condition of the soil in its natural condition throughout the year. Natural drainage is important in agriculture and in site selection for homesites.

Wet or poorly drained soil conditions occur when rainfall or additions of water from nearby areas equal or exceed removal by downward drainage, lateral drainage, or evapotranspiration. Wet soils are caused by slowly permeable or impermeable material in the subsoil or by a naturally occurring high groundwater table.

Natural soil drainage is judged by color patterns in the soil, the presence or absence of a high water table, and soil texture. Soils contain many iron compounds that are different in color depending on soil drainage conditions. Air moves readily through well drained soil horizons where iron is in oxidized brownish or reddish compounds. Air is excluded from poorly drained soil horizons so that iron compounds are reduced to a grayish-color. The term Redoximorphic Features (RMF) indicates these color differences due to varying drainage conditions. RMFs are flecks, spots, or patches of one color in a background of the main color and may be of any color or size. Sometimes the RMFs occupy just about as much area as the main color. Gray background or matrix colors indicate restricted natural soil drainage. A high water table may only be of short duration during the year but the RMFs will be a good clue any time of year.

The following classes of natural drainage are used on the score card:

Poorly Drained – This category includes poorly, somewhat poorly, and very poorly drained soil. These soils are wet for significant periods of time. RMFs are common features and may appear anywhere throughout the profile.

Range Site – wet meadow, subirrigated, or saline lowland

Well Drained – This category includes well drained and moderately well drained soils. Color is normally uniform and free of RMFs. Small amounts of RMFs may occur in the C horizon. The texture is normally loamy.

Range Site – sandy, silty, or clayey

Excessively Drained – This category includes excessively drained and somewhat excessively drained soils. These soils are very porous and rapidly permeable. They have a low available water capacity and no RMFs.

Range Site - sands