

# Background Information 2020 MAWD Resolution

Proposing District: Riley Purgatory Bluff Creek Watershed District

Contact Name: Terry Jeffery, Administrator

Phone Number: 952-807-6511

Email Address: [tjeffery@rpbcwd.org](mailto:tjeffery@rpbcwd.org)

Title: RESOLUTION to amend Minnesota Rule 8410.0800 to include a required goal for soil health in watershed management plans and ten-year plan amendments

## Background that led to the submission of this resolution:

Riley Purgatory Bluff Creek Watershed District seeks to address the decline of soil health, “the continued capacity of soil to function as a vital living ecosystem that sustains plants, animals, and humans,”<sup>1</sup> and the closely related negative impacts to water quality, due to the spread of impervious surfaces and general compaction of urbanized soils.

Excessive rainfall and resultant flooding, threatening food security, public health, and natural resources, are anticipated as rainfall amounts continue to increase. Soil organic matter is a known effective antidote to the negative water resources impacts of soil erosion and flooding that accompany increased rainfalls.<sup>2</sup> For example, a 1% increase in soil organic matter has the ability to hold 20,000 gallons of additional water per acre. Increasing the organic carbon content in soil significantly benefits water quality, along with the public health more broadly.<sup>3</sup> Healthy soils contain “a diverse population of beneficial organisms, high levels of decomposed organic matter, low levels of toxic compounds, adequate (rather than excessive) levels of nutrients, a sufficiently porous surface, and good tilth.”<sup>4</sup>

According to the Natural Resources Conservation Service,

“Soil helps control where rain, snowmelt, and irrigation water goes. Water and dissolved solutes flow over the land or into and through soil. . . . The minerals and microbes in soil are responsible for filtering, buffering, degrading, immobilizing, and detoxifying organic

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<sup>1</sup> Natural Resources Conservation Service - Soils. Soil Health. USDA. *Available online:* <https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>.

<sup>2</sup> See Desai, Danika. 2018. Soil Conservation in California: An Analysis of the Healthy Soils Initiative. NYU Environmental Law Journal. *Available online:* <https://www.nyuelj.org/2018/02/soil-conservation-in-california-an-analysis-of-the-healthy-soils-initiative/>

<sup>3</sup> Bryant, Lara. 2015. Organic Matter Can Improve Your Soil’s Water Holding Capacity. NRDC. *Available online:* <https://www.nrdc.org/experts/lara-bryant/organic-matter-can-improve-your-soils-water-holding-capacity>.

<sup>4</sup> *Id.*

and inorganic materials, including industrial and municipal by-products. . . . Soil structure provides a medium for plant roots.”<sup>5</sup>

Currently, Minnesota Rule 8410.0800 lists required goals for water management plans and ten-year plan amendments, including for water quantity, water quality, public drainage systems, groundwater, and wetlands. Missing from this list of required goals is soil health.

Minnesota Statutes Section 103B.231, subd. 4(c) states:

(c) The [metropolitan watershed management] plan shall contain the elements required by subdivision 6. Each element shall be set out in the degree of detail and prescription necessary to accomplish the purposes of sections [103B.205](#) to [103B.255](#), considering the character of existing and anticipated physical and **hydrogeologic conditions**, land use, and development and the severity of existing and anticipated water management problems in the watershed. [emphasis added.]

Section 103B.231, subd. 4(c) provides a statutory basis for revising Minnesota Rule 8410.0080 to include soil health goals in watershed management plans, given the hydrogeologic connection between soil health and impervious surface water runoff and compaction of urbanized soils;

#### **Ideas for how this issue could be solved:**

Ask the Minnesota Board of Water and Soil Resources to amend Minnesota Rule 8410.0080 to include a goal for soil health in watershed management plans and ten-year plan amendments. A metropolitan watershed district would then be required to include soil health in its watershed management plan or ten-year plan amendment, and to implement policies to assess, protect, and restore soil health within the district.

#### **Anticipated support or opposition from other governmental units?**

(Check one) This issue is of importance to:

Only our district

Only our region

The entire state

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<sup>5</sup> Natural Resources Conservation Service - Soils. Soil Health. USDA. *Available online:* <https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>.