**F. Project Manager Qualifications and Organization Description**

**Dr. Jessica Gutknecht**, **“**Identifying grassland plant mixes to reduce nitrate pollution”

**Professional Experience**

* University of Minnesota, Twin Cities, St. Paul, MN; Assistant Professor, Department of Soil, Water, and Climate (2014-present); responsible for leading an extramurally-funded research program in soil nutrient cycling and ecology, teaching undergraduate and graduate courses, advising graduate students.
* Helmholtz Centre for Environmental Research-UFZ, Halle, DE; Senior Scientist Department of Soil Ecology (2009-2013); responsible for leading an extramurally and intramurally funded departmental working group on microbial functional ecology, teaching undergraduate practical courses, and advising graduate students.
* University of California-Santa Cruz, Santa Cruz, CA; Postdoctoral Research Associate, Department of Environmental Science; (2008-2009)

**Education**

* University of Wisconsin-Madison, Madison, WI; Ph.D., Soil Science; (2004-2007)
* University of Wisconsin-Madison, Madison, WI; M.S., Soil Science; (2001-2003)
* Oregon State University, Corvallis, OR; B.S., Microbiology/cert. applied ethics; (1996-2000)

**Research focus**

I am a soil ecologist, and I use knowledge about soils and soil nutrient cycling to explore how our decisions about land management can lead to improved outcomes both for people and the environment, especially in the context of fluctuating climatic conditions. I am interested in facilitating collaborative groups to achieve integrated, high impact outcomes. As part of my focus on land management and water quality, I am actively involved in two complementary LCCMR projects: Assessing Release of Mercury and Sulfur on Aquatic Communities (Nater): ML2017, chp.96, sec.2, subd. 04i; and Preventing Nitrate Contamination of Groundwater Using Perennial Grains (Wagner): ML2018, chp.214, art. 4, sec.2, 04j.

**Relevant Publications**

Docherty, K. and **J. Gutknecht.** 2019. Microbial community structure alters the resilience of restored prairies to climate change. Ecological Applications. In press.

Schmidt, J., Fester, T., Schulz, E., Michalzik, B., Buscot, F., and **Gutknecht, J.L.M.** (2017) Effects of plant-symbiotic relationships on the living soil microbial community and microbial necromass in a long-term agro-ecosystem. Science of the Total Environment. 581-582: 756-765.

Liang, C., **Gutknecht, J.L.M**, and Balser, T.C. (2015) Microbial lipid and amino sugar responses to long-term simulated global environmental changes in a California annual grassland. Frontiers in Microbiology 6: 385.

Docherty, K.M, Bartling, J.M., Borton, H.A., Espinosa, N., Frost, G., Gebhardt, M., Gil-Loaiza, J., **Gutknecht, J.L.M.**, Maes, P., Mott, B., Parnell, J., Rodrigues, P., Walser, O., Gallery, R.E. (2015) Variation of soil microbial communities within the National Ecological Observatory Network. PLoS One. journal.pone.0135352

**Organization description**

Jessica is active in research and graduate and undergraduate education at the University of Minnesota and is an associate fellow with the UMN Institute on the Environment. The University of Minnesota is a hub for education and research in Minnesota, and entities within it such as the Institute for the Environment are dedicated to “a future in which people and the environment prosper together”. UMN is also a land grant university, the land grant mission being to provide open state education. Dr. Gutknecht is dedicated to these missions and will target any work with LCCMR with this in mind.