

# Effects of Rain Gardens on the Quality of Water in the Minneapolis, St. Paul Metropolitan Area of Minnesota, 2002-04: Usgs Scientific Investigations Report 2005-5189



Filesize: 8.68 MB

## **Reviews**

*This composed publication is fantastic. This is certainly for all those who statte that there was not a well worth reading through. You will not truly feel monotony at whenever you want of your respective time (that's what catalogs are for regarding when you ask me).*

*(Prof. Mark Ratke Jr.)*

## **EFFECTS OF RAIN GARDENS ON THE QUALITY OF WATER IN THE MINNEAPOLIS, ST. PAUL METROPOLITAN AREA OF MINNESOTA, 2002-04: USGS SCIENTIFIC INVESTIGATIONS REPORT 2005-5189**



BiblioGov. Paperback. Book Condition: New. This item is printed on demand. Paperback. 32 pages. Dimensions: 9.7in. x 7.4in. x 0.1in. Rain gardens are a popular method of managing runoff while attempting to provide aesthetic and environmental benefits. Five rain-garden sites in the Minneapolis - Saint Paul metropolitan area of Minnesota were instrumented to evaluate the effects of this water-management system on surface and subsurface water quality. Most of these sites were in suburban locations and frequently in newer developments. Because of this they were affected by changing hydrology during the course of this study. Less-than-normal precipitation during much of the study may have resulted in samples that may not be representative of normal conditions. However, the resulting data indicate that properly designed rain gardens enhance infiltration and can reduce concentrations of dissolved ions relative to background conditions. The runoff events in one rain garden and several runoff events in the other rain gardens produced no sampled overflow during this study because the gardens captured all of the inflow, which subsequently infiltrated beneath the land surface, evaporated, or transpired through garden vegetation. Where measured, overflow had reduced concentrations of suspended solids and most nutrient species associated with particulate material, as compared to inflow. Many of these materials settle to the bottom of the rain garden, and some nutrients may be assimilated by the plant community. Site design, including capacity relative to drainage area and soil permeability, is an important consideration in the efficiency of rain-garden operation. Vegetation type likely affects the infiltration capacity, nutrient uptake, and evapotranspiration of a rain garden and probably the resulting water quality. The long-term efficiency of rain gardens is difficult to determine from the results of this study because most are still evolving and maturing in relation to their hydrologic, biologic, and chemical setting. Many resource managers...

 [Read Effects of Rain Gardens on the Quality of Water in the Minneapolis, St. Paul Metropolitan Area of Minnesota, 2002-04: Usgs Scientific Investigations Report 2005-5189 Online](#)

 [Download PDF Effects of Rain Gardens on the Quality of Water in the Minneapolis, St. Paul Metropolitan Area of Minnesota, 2002-04: Usgs Scientific Investigations Report 2005-5189](#)

## Other Kindle Books

---



### **Animalogy: Animal Analogies**

Sylvan Dell Publishing. Paperback. Book Condition: New. Cathy Morrison (illustrator). Paperback. 32 pages. Dimensions: 9.8in. x 8.4in. x 0.4in. Compare and contrast different animals through predictable, rhyming analogies. Find the similarities between even the most incompatible...

[Read ePub »](#)

---



### **The Whale Tells His Side of the Story Hey God, Ive Got Some Guy Named Jonah in My Stomach and I Think Im Gonna Throw Up**

B&H Kids. Hardcover. Book Condition: New. Cory Jones (illustrator). Hardcover. 32 pages. Dimensions: 9.1in. x 7.2in. x 0.3in. Oh sure, well all heard the story of Jonah and the Whale a hundred times. But have we...

[Read ePub »](#)

---



### **Molly on the Shore, BFMS 1 Study score**

Petrucci Library Press. Paperback. Book Condition: New. Paperback. 26 pages. Dimensions: 9.7in. x 6.9in. x 0.3in. Percy Grainger, like his contemporary Bela Bartok, was intensely interested in folk music and became a member of the English...

[Read ePub »](#)

---



### **Good Night, Zombie Scary Tales**

Feiwei & Friends. Paperback. Book Condition: New. Iacopo Bruno (illustrator). Paperback. 112 pages. Dimensions: 8.2in. x 5.4in. x 0.2in. Welcome. Have a seat. Ignore the shambling undead outside. Let us tell you a story. But be...

[Read ePub »](#)

---



### **God Loves You. Chester Blue**

Henry and George Press. Paperback. Book Condition: New. Ursula Andrejczuk (illustrator). Paperback. 140 pages. Dimensions: 8.0in. x 5.2in. x 0.3in. BEAUTIFUL NEW ILLUSTRATIONS BRING THE STORY TO LIFE! A charming book about a mysterious bear that shows...

[Read ePub »](#)