

Technical Memorandum

To: Barb Peichel, MPCA
From: Jen Koehler and Scott Sobiech, Barr Engineering
Subject: Red Rock Lake – Request for Removal from the MPCA 303(d) Impaired Waters List
Date: 10/31/2013
Project: 23/27-0053
c: Claire Bleser, RPBCWD

This memorandum related to the removal of Red Rock Lake from the MPCA 303(d) Impaired Waters List was prepared on behalf of the Riley-Purgatory-Bluff Creek Watershed District (RPBCWD).

Red Rock Lake is a shallow lake located in the RPBCWD (specifically, the Purgatory Creek watershed) in the City of Eden Prairie. The watershed is about 1,262 acres and is primarily low density residential land use. There is public access to Red Rock Lake through Red Rock Lake Park, including a public boat access although there are no swimming beaches or fishing piers on the lake. An Eden Prairie city ordinance restricts the size of motors in use on the lake to 10 horsepower.

Table 1 summarizes the physical parameters and the water quality impairment information of Red Rock Lake, including the reasons for the request for removal from the MPCA 303(d) impaired waters list. Additionally, Figure 1 summarizes the historic water quality data for Red Rock Lake from 2003-2013. This summary includes the data available from the MPCA EDA website and more recent data collected by RPBCWD. The water quality parameters summarized in Figure 1 include the surface (0-2 m) concentrations of total phosphorus and chlorophyll-*a* (corrected for pheophytin) and Secchi disc transparency. Also shown on Figure 1 are the applicable MPCA water quality standards and the number of samples that were used in estimating the growing season average.

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Table 1: Summary of Red Rock Lake Physical Parameters and Water Quality Impairment

Red Rock Lake Physical Parameters	
Surface Area (ac)	72
Maximum Depth (ft)	16
Average Depth (ft)	5.2
Littoral Area (ac)	66
Drainage Area (ac)	1,262
Red Rock Lake Impairment Summary	
Water Body Name	Red Rock Lake
MDNR ID	27-0076
Major Watershed	Lower Minnesota River
Use Classification	2B, 3C
Ecoregion	North Central Hardwood Forest
MPCA Lake Classification	Shallow
Impairment	Aquatic Recreation Nutrient/Eutrophication Biological Indicators
Year Listed	2002
Reason for Removal	Most recent years of water quality data (2011-2013) have been consistently meeting the MPCA shallow lake criteria
Staff Contact	Barb Peichel, MPCA
Brief Summary of Reasons for Requesting a Listing Change Review	<ul style="list-style-type: none"> - Last assessed by the MPCA in 2007 (per EDA website) - Additional water quality data collected by RPBCWD in 2011, 2012, & 2013 - Several of the recommended BMPs from the Red Rock Lake UAA (RPBCWD, 2006), including several pond retrofits, have been completed by the City of Eden Prairie. - Recent management (2011 & 2012) of Curlyleaf Pondweed in areas of Red Rock Lake

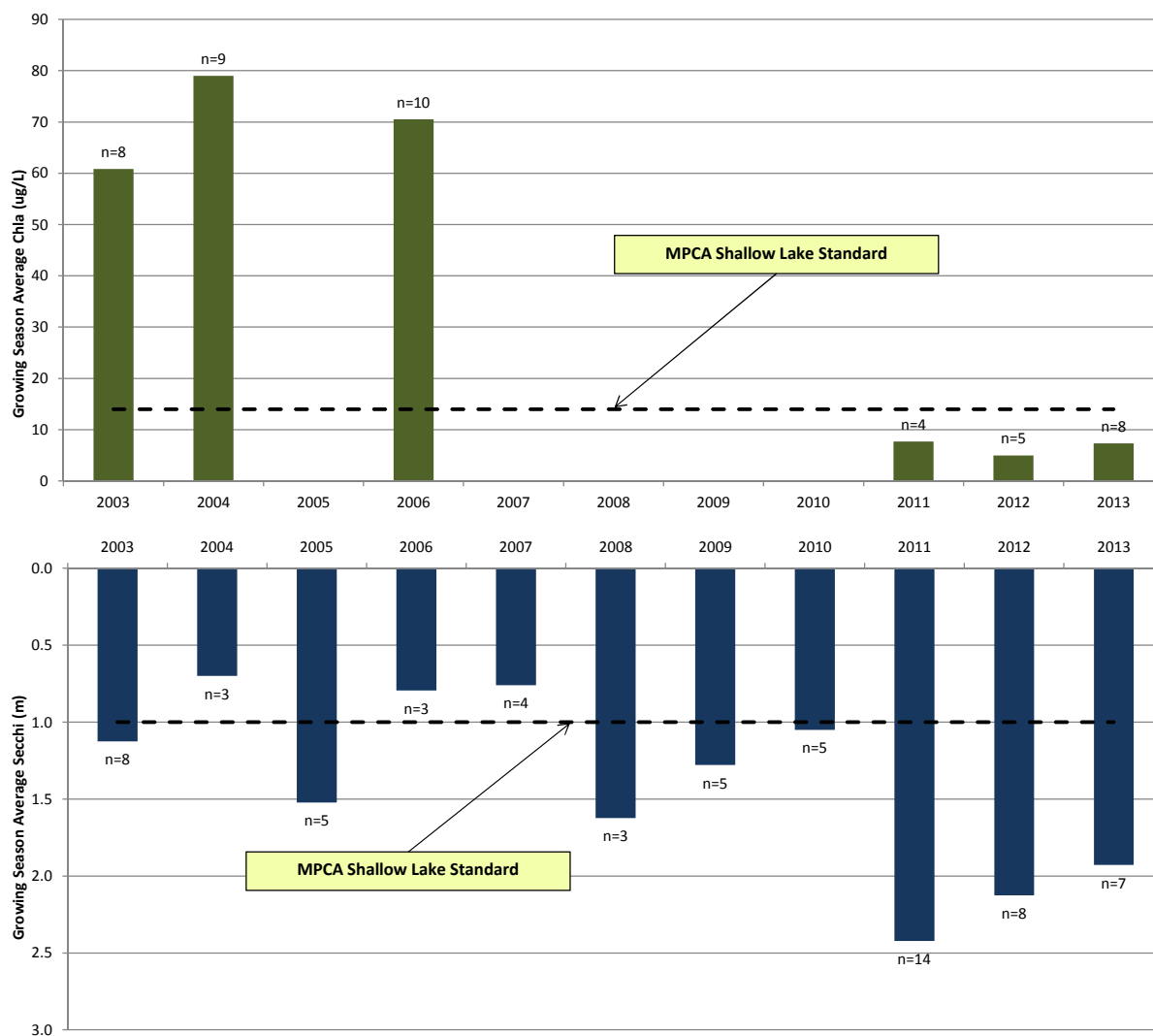
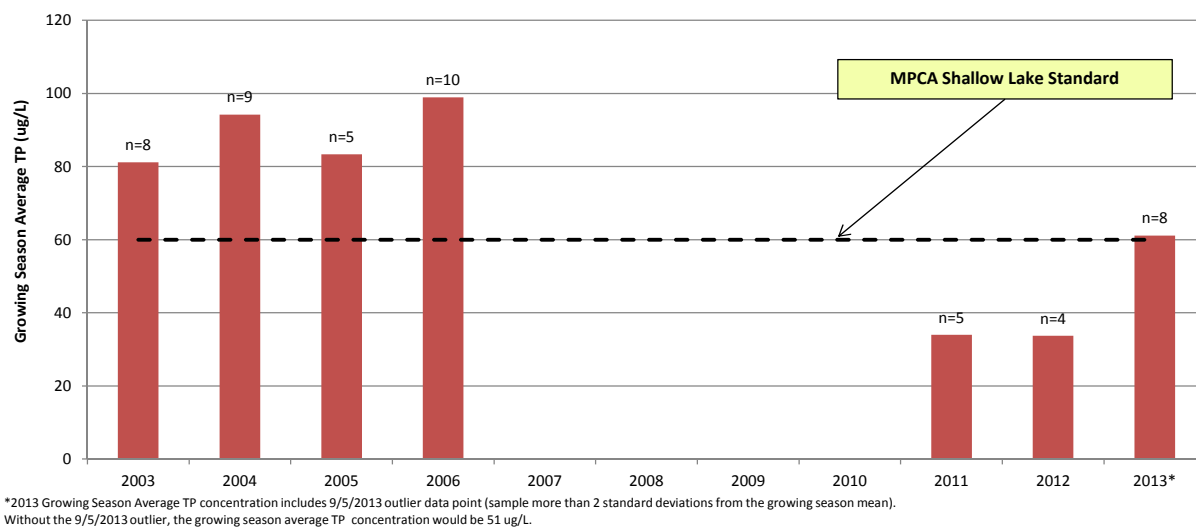


Figure 1
Historic Growing Season
(June - September)
Water Quality Summary for
Red Rock Lake