KEEPING AN EYE ON SPRINGTIME LAKE LEVELS

March 22, 2019

Important messages for this week:

- **Weather forecast for the next several days looks mostly dry; steady snowmelt/runoff expected**
- **Lake levels do not rise as quickly as river levels**
- **Prior Lake Outlet Structure low-flow gate is open; water is discharging from Prior Lake**
- **City is following its Flood Response Policy**
- **A new update will be available Monday, March 25**

City of Prior Lake and Prior Lake-Spring Lake Watershed District (PLSLWD) staff continually monitor local conditions such as winter snowpack, precipitation, and lake levels to assess flooding risk. Early spring is one time of year when flooding potential receives some extra attention. According to the National Weather Service office in Chanhassen, the weather outlook and the potential for snow or rain is the biggest wild card every year and late winter weather conditions will be the main spring flood driver.

Prior Lake sits at the bottom of a 30 square mile watershed and is at risk for flooding throughout the year. The lake is landlocked and has no natural overflow, the only outlet being the Prior Lake Outlet Structure, installed in the 1980s to address flooding concerns. The Outlet Structure and 7-mile Prior Lake Outlet Channel are both operated and maintained through a partnership between the PLSLWD, Shakopee Mdewakanton Sioux Community, and the Cities of Prior Lake and Shakopee. The PLSLWD functions as administrator for the Prior Lake Outlet system and provides online lake level and outlet flow updates to the public. The PLSLWD opened the low-flow gate of the Prior Lake Outlet Structure on March 5. More information about the low-flow gate management strategy can be found here.

The snowpack in the watershed above Spring Lake and Prior Lake has been greatly reduced since early last week. Expect further reduction with warmer, drier weather in the forecast. The water level of Prior Lake was 903.02 on the morning of March 18. This level is about a foot below the Ordinary High Water (OHW) elevation of 903.9 and over three feet below the highest recorded level of 906.17 (June 2014). Prior Lake is discharging through the Prior Lake Outlet Channel. Spring Lake's water level was 911.23, or about 1.5 feet below its OHW of 912.8 and about 2.5 feet below the highest recorded level of 913.94 (June 2014).

Our average annual precipitation is about 31.1 inches and the 365-day precipitation sum (amount of water we've received since this time last year) is above average at about 35 inches. Due to this recent precipitation trend and the higher-than-average winter snowpack, Spring Lake and Prior Lake could experience some degree of spring flooding. Ultimate lake levels will depend primarily on the precipitation we receive combined with how fast the snowpack melts. The dry weather conditions combined with moderate temperatures in the forecast are favorable for slow melting of the remaining snowpack over the next several days.

The National Weather Service (NWS) in Chanhassen recently noted that "the severity of the flooding will depend on the weather conditions for the rest of March into April." The NWS is focusing primarily on river systems, which are very different than our local Spring Lake/Prior Lake system. Rivers can rise rapidly, and potentially dangerous conditions can develop in a matter of a few hours. Lake systems are not as "flashy" as river systems, rising and falling more slowly, allowing us more time to prepare for

high-water conditions. The City's Flood Response Policy outlines our planned responses to local flooding based on Prior Lake and Spring Lake reaching certain water levels.