

## **USGS White River Algae Study Report**

### **June 25, 2020**

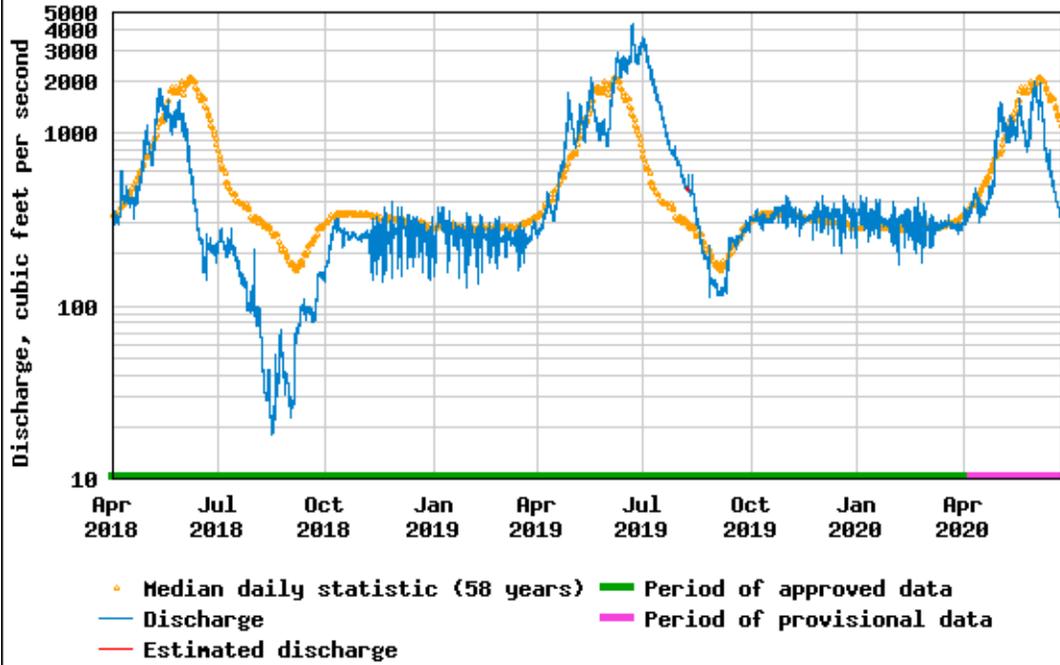
USGS began sampling nutrients for the scheduled "Pre" algae bloom condition at the 20 study sample locations on the White River beginning in May this year. June 1<sup>st</sup> -5<sup>th</sup>, USGS was in Meeker measuring high flow conditions and doing surveys. Specifically, RTK surveys of high-flow marks were surveyed at each site, as well as velocity profiles during peak flows, peak flow discharge measurements and recession discharge measurements to determine the extent of stream channel movement for water year 2020. USGS, Conservation Districts, Trout Unlimited and CPW have discussed the publication of continuous temperature data from Trout Unlimited at the 20 USGS sample locations. This data will be helpful in determining specific temperature conditions at each site.

In June 2020, additional high flow survey information was collected to better understand streamflow correlations between sites and to have a better understanding of peak flows throughout the upper basin. Thus far, in 2020, peak flow at the 'White above Coal Creek' site looks to have been approximately 200 cfs higher than that of 2018 and about 2000+ cfs lower than 2019 (See attached figures). Initially the season looked to be an average one, however streamflows have decreased dramatically since the first week of June and now look to be on track to resemble conditions in 2018. It was noted that precipitation levels and other weather conditions will determine the actual streamflow and temperature's that will occur during the remainder of the year. The measurements taken during high flow conditions will help characterize stream channel mobility, or the tendency for the channel bed to have moved. Bed movement can help control algae levels by cleaning or abrading rock surfaces. It is not known if there was movement in 2020, however it is likely there was less movement, for a shorter period of time, than in 2019.

The Conservation Districts continue to work closely with the USGS. Photographs and dialog are ongoing between the Districts and local volunteers regarding the growth levels that are occurring prior to the peak algae condition for the season. Some algae is already beginning to appear at sites on the White River. The USGS plans to sample each of the 20 study sites when algae growth is at its peak. This will allow for a normalized comparison among sites and will provide data during the most intense period of algae growth. This data will ultimately be used for modeling controls on algae growth.

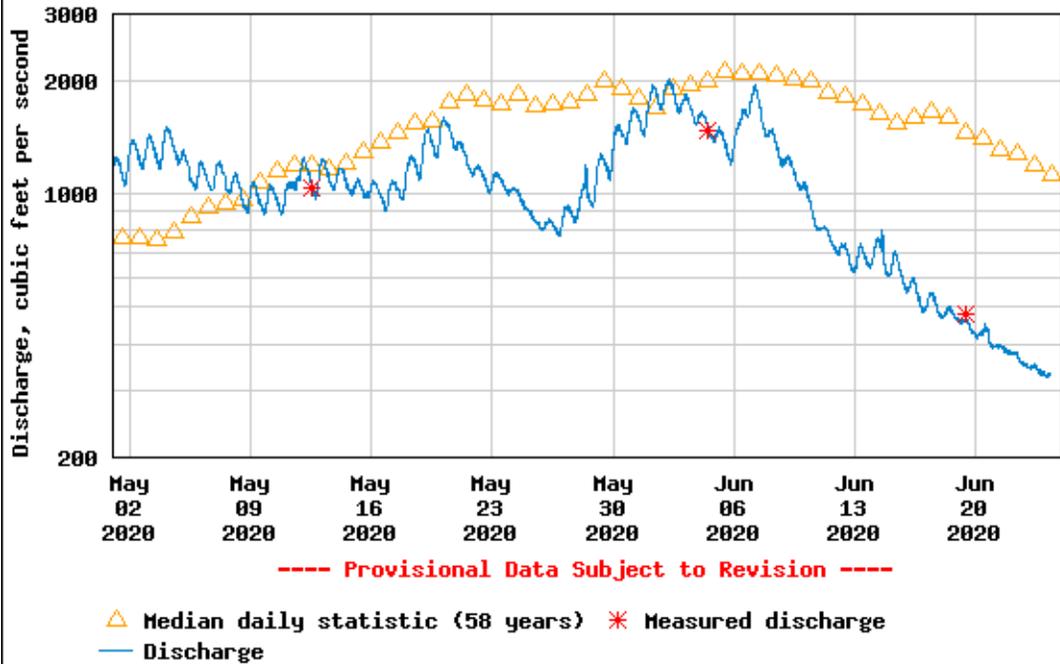
In addition to field activities and field preparation, work has begun on the final report. Work consists of the initial outline and layout for the document as well as an Introduction, Study Area and Scoping sections.

USGS 09304200 WHITE RIVER ABOVE COAL CREEK NEAR MEEKER, CO



Graph courtesy of the U.S. Geological Survey

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