Items for the September 2024 UWP Board Meeting

- River Watch items of interest:
    - September sampling and lab analysis for 13 of 15 UWP River Watch sites was completed on the 2nd, 3rd, 6th, and 9th of September. Two sites, Mineral Creek and Blue Lake, might still be sampled later in the month.
    - River Watch shared an announcement that the Water Quality Control Commission granted "Outstanding Water" status to 14 segments of the Yampa and Colorado River Basins. [An Outstanding Water designation means that the water quality must be protected as it is today, in its existing quality and cannot be denigrated.] Much of the evidence on water quality needed for the designation came from historic River Watch data.
    - The River Watch data visualization tool (Shiny App) has been updated with 2023 data and also now includes visualization (in progress) of macroinvertebrate data. The actual macro data, as well as MI indices computed from the data, can be accessed from the app. Table 1 shows some of the macroinvertebrate data collected in Ouray County since 2003. Of the six sites shown, four had MMI scores (green shading) indicating "attaining" for aquatic life use. Three of these sites (RW-347, RW-395, and RW-336) were sampled by UWP volunteers in 2021 and 2022.

Table 1.River Watch and WQCD macroinvertebrate data collected in 2003 to 2022. EPTPct is the percentage of macroinvertebrates that were found in the orders of mayflies, stoneflies and caddisflies. MMI is a numeric index based on several taxonomic attributes and is used to assess the overall health of a stream.

Site ID	Location	WaterbodyName	CollDate	EPTPct	MMI
WQCD 10669C	at US550	Cow Creek	9/30/2004		75.400
RW-347	Abv Unc Conf	Cow Creek	11/8/2021	79.273	69.600
RW-891	Sherman St Brdg	Unc River	10/23/2003	76.190	41.800
RW-395	Cr24 Brdg	Unc River	10/29/2022	97.122	61.500
RW-336	Cr24 Brdg	Dallas Creek	11/1/2022	66.192	69.600
RW-3585	Ouray	Oak Creek	8/21/2005	62.500	0 - 29

The macro tool can also be used to graph the macro data by behavior or feeder group. Figure 1 shows the percentages by feeder group for the RW-395 sample collected in October of 2022. The largest percentages were in the Collector-filterer group which collects food from the water column by a variety

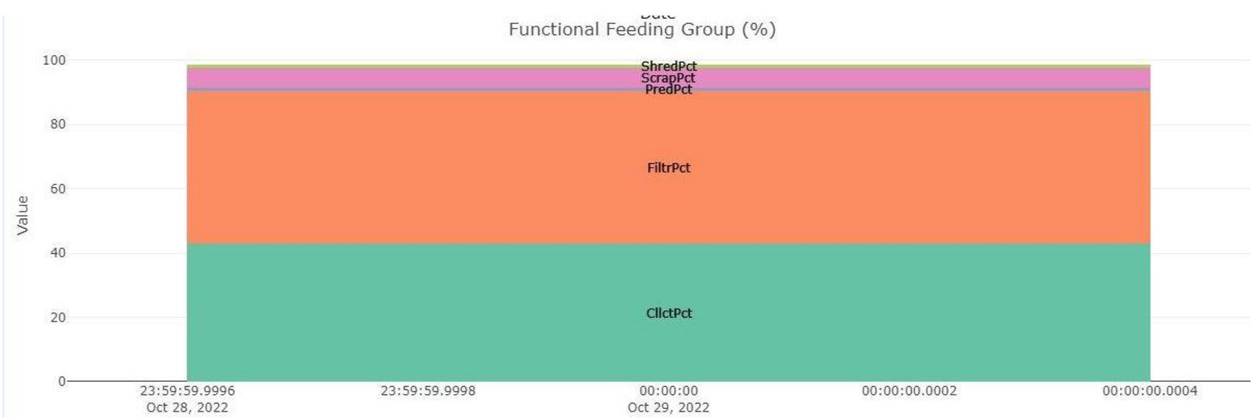

Figure 1. Percentages of functional feeding groups from the macroinvertebrate sample collected at River Watch site RW-395 in October 2022.

of filters, and the Collector-gatherer group which collects food from the stream bottom. There were very low percentages of Shredders and Predators.

- Precipitation and Streamflow:
  - After a very dry July, monsoonal flow produced copious amounts of rain over the Uncompahgre Watershed between the 8th and 28th of August. Flash flooding and mud and debris slides caused a large amount of damage in Ouray County. In the higher elevations a USGS gauge in Governor Basin recorded nearly seven inches of rain, the Idarado SNOTEL site had 5.5 inches of rain (220% of its August median), and the Red Mtn SNOTEL had 5.2 inches of rain (200% of its August median). At lower elevation, the USGS Dallas Creek precipitation gauge recorded three inches of rain between August 10th and the 28th.
  - The 1 July through 10 September discharge graph from the USGS gauge near Ridgway is shown in Figure 2. The peak discharge of 1430 cfs due to monsoon rain occurred on 12 August. Note that the median flow was only exceeded during and a few days after the monsoon rains ended.

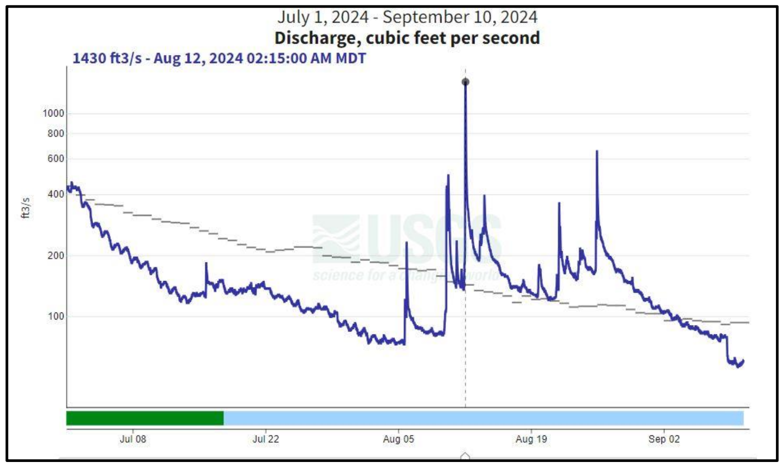

Figure 2. Discharge graph for the Uncompahgre River USGS gauge near Ridgway for the period 1 July to 10 September 2024. The median discharge curve is shown in gray. The faint vertical gray line marks the peak flow of 1430 cfs, recorded on 12 August.

  - Dallas Creek and Cow Creek were also impacted by monsoon rains, but to a lesser degree. As with the Uncompahgre River, Dallas Creek flow was well below its median flow between July 7th and August 10th; 6-24 cfs compared to a median of about 50 cfs. The creek then had peaks of 150 to 170 cfs on August 12th and August 14th. Cow Creek had somewhat higher flow peaks of 190 and 205 cfs on the same dates.
  - Based on median storage values Ridgway Reservoir storage typically declines from early July into the fall. Storage data indicates the reservoir had dropped to about 68,500 acre-feet by the 10th of August. Median values show storage then drops to below 60,000 acre-feet by September 10th. This year, due to the monsoon rains, storage began increasing after August 10th, and stands at about 72,000 acre-feet on September 10th, more than 12,000 acre-feet above its median value.