

Henry's Fork Watershed Council Meeting Minutes

May 11, 2021

Introductions and Community Building

Aaron Dalling, co-facilitator from Fremont-Madison Irrigation District (FMID) welcomed everyone to the virtual meeting via Zoom. The group went around with introductions and then called for a moment of silence before opening for announcements and community building.

Brandon Hoffner, Henry's Fork Foundation (HFF) recognized the passing of Randy Johnson of Forsgren Associates. Randy attended many HFWC meetings and did great work in the watershed.

Keith Esplin, Eastern Idaho Water Rights Coalition shared that last fall they started a program to educate legislators on watershed issues. They had to make some changes due to COVID. The program will now be in September and they want to do a field tour, possibly touring recharge sites off Aberdeen Springfield canals, but they are still seeking ideas (recharge sites, irrigations structures, etc.).

Christina Morrisett, HFF/Utah State University (USU) is currently a grad student at USU and has been a part of the watershed since 2015. She is conducting a project about how water is managed in the Henry's Fork watershed. She put together a survey to learn more about water interests and needs of groups around the watershed. The survey takes about 10-20 minutes. It is totally voluntary and anonymous, and data stays at USU. HFF doesn't have access to any of the raw data. The survey link and her contact info were shared in the chat and an email is coming soon for those who might be interested.

Kathy Rinaldi, Greater Yellowstone Coalition (GYC) – The Forest Service has a project to address deferred maintenance and GYC is a partner. It's an inventory of routes that were legally closed in the Forest Plan in 1997 and GYC is helping the Forest Service get on the ground and decommission those roads. Work will start in July. Liz Davy added that the Forest Service will send out press releases at the end of May and beginning of June. More information to come.

Jamie Laatsch, co-facilitator from the Henry's Fork Foundation announced that the next HFWC meeting will be the Annual Watershed Tour in August and asked folks to please send ideas for the tour or future meeting topics and presentations.

Tributary Trout Assessment and Teton Watershed Fisheries Research Update

Max Lewis, Friends of the Teton River

Max Lewis presented on the fisheries research and monitoring that Friends of the Teton River (FTR) conducted during 2020. The presentation focused on FTR's tributary trout population assessment efforts, which is now in its 15th year. He shared findings on core Yellowstone Cutthroat trout populations in the upper Teton River watershed's tributaries, and gave an update on the overall health of the YCT population in the watershed. He also shared data collected by the Idaho Fish and Game (IDFG) department that will provide complete information on the species composition within the upper Teton River watershed. The presentation also included an update on FTR's regular wide range of annual monitoring efforts. In 2003, IDFG found very low Yellowstone Cutthroat Trout numbers. Since then IDFG and FTR have worked hard to restore that population. Numbers have increased to ~20-30%.

The backbone of FTR's monitoring efforts is a basin wide electrofishing survey, focused on tributary streams. In 2020, FTR was able to survey half of total sites, focusing on the most important sites. They worked in partnership with IDFG and Wyoming Department of Game and Fish. Over the past 15 years, there has been a marginal decreasing trend in total abundance of trout (about 2% per year). No change in YCT species composition, so they are maintaining their foothold in the watershed. In general monitoring, over 5,000 trout have been PIT tagged to monitor movement. FTR also conducts redd surveys and genetic sample collection.

Bates Bridge Put-In and Teton River Restoration Planning, Implementation, and Monitoring *Mike Lien, Friends of the Teton River*

Restoration efforts began in earnest in 2003 in the Teton watershed after some concerning trout population declines. Landowners, Teton County, cities, agencies and NGOs all worked together. To date 27 significant stream restoration projects have been conducted on about six stream miles. FTR has installed three fish screens on key Yellowstone Cutthroat Trout (YCT) spawning tributaries and installed eight fish ladders to benefit fish passage.

FTR worked with irrigators on Canyon Creek to rebuild a pump station to allow fish to move through. Habitat restoration was conducted by the Huntsmans on Fox Creek, replanting willows and increasing pool and ripple structure. In 2013, FTR wrapped up restoration project on a section of Teton Creek that was channelized. They found increased fish habitat by 80% and 2,800 tons per year sediment reduction. With the recent building boom, FTR is focused on floodplain protection as shock absorbers for flood events. They also have a project to age cottonwood stands to get a sense of when the last flooding events where in Teton Valley. Possibly the 1860s.

At Bates Access site, FTR worked on a collaborative project last fall with partners, including Teton County, agencies, and landowners to restore streambanks with natural vegetation and added fishing gaps where willows were left out, and put in foot access.

Late 1990s – early 2000s, YCT populations were at an all time low, and over time there has been a rise in all trout species. Between 2003-2017, FTR saw an increase in abundance of trout from 420 per mile to 4,000 per mile in the upper Teton River. YCT increased from 14 to 936 per mile.

Strongest correlation they could find to trout population increases were from conservation projects. Brown trout numbers are increasing across age classes, so number one priority for FTR is to address this increase.

Upper Snake Reservoir Operations Update

Brian Stevens, US Bureau of Reclamation

The Upper Snake Reservoir system this year has been highlighted by good storage and waning precipitation. Currently, the system has 28k ac-ft less than last year at this point, at 113% of average. Jackson Lake will likely fill early-mid June, with the same for Palisades Reservoir. Currently, flows are 250 cfs out of Island Park Reservoir and the reservoir is 95% full. Ririe Reservoir is 81% full. American Falls is 82% full and drafting pretty quickly, discharging about 13k cfs.

The last few months have been very dry. 5-20% precipitation for the month of March. April was slightly better than March, but not by much. In the upper Henry's Fork, water year to date precipitation went from 78% in March and April down to 72% in May. We've seen period of record low soil moisture across the basin. Crab Creek SNOTEL recorded record low soil moisture. Palisades Basin sites are seeing period of record minimum for soil moisture as well. We had really good baseflows in 2017 and 2018 and began to drop off in 2019; and 2021 is the lowest. If we don't see improved conditions in the next few years, we'll likely see baseflows drop off.

Palisades Reservoir is passing most inflow and until second week of June passing inflow at about 15,000 cfs. Trying to maximize power generation as much as possible and tracking irrigation demand once Palisades fills. Total system storage is about 3.4 million ac-ft currently, likely to track close to 2016. Storage is OK, but not stellar. Will likely end up at or below the 50 percentile for storage.

Island Park Reservoir operations – sites around the reservoir are looking quite dry and well below average precipitation water year to date. Outflow from Island Park Reservoir has been closely monitored and through late-April was passing close to inflow. Island Park storage increased up to close to the brackets on the spillway and then late-April/early-May changes were made to outflow to avoid ice brackets damaging spillway. Current outflow is 250 cfs, close to minimum. We will probably see outflow start to increase later in May.

Outlook – Palisades Reservoir is likely to fill by mid-June, with outflow increasing until it fills. Island Park Reservoir is targeted fill later this month. Rehabilitation of Linderman Dam will be going on later this fall.

Henry's Fork Watershed Water Supply Outlook

Rob Van Kirk, Henry's Fork Foundation

Water-supply conditions in the Henry's Fork Watershed are poor and getting worse by the day.

- This year's peak snow water equivalent (SWE) occurred three weeks earlier than average and at 85% of average.
- April-1 SWE was 83% of average.
- May-10 SWE was 57% of average; only 56% of snowpack remains (average is 76%).
- Water-year precipitation to date is 76% of average (5th lowest in last 33 years).
- Natural streamflow is 88% of average for the water year to date but only ~70% of average over the past few weeks.
- Minimum natural flows over the 1978-2020 record have been observed in Henry's Lake inflow, Teton River above South Leigh Creek, and Henry's Fork at Island Park.

Correct interpretation of these numbers requires understanding of statistics. The median is the middle value in a set, i.e., the 50th percentile. The mean is the arithmetic average, obtained by adding all of the values and dividing them by the number of values. In hydrology, the median is almost always less than the mean because of the effects of a few large observations. So, which is most relevant, the median or the mean? In the prior appropriation system of water rights, allocation is based on water availability in the wettest years, because when more water is available, junior users can claim and use that water. If appropriation were based on median water availability, less than half of the water available would be put to beneficial use. On the other hand, natural processes in stream channels are based on frequency of occurrence of various flow events, which is best measured by rank or percentile. Thus, percent of mean (or average) is the best measure of availability in the water rights system, whereas percentiles are the best measure of hydrologic conditions in the long-term context of aquatic ecosystem function. From a statistician's viewpoint, the hydrology convention of reporting percent of median is a meaningless measure that leads people to believe that there is more water available than is actually the case. As an example, this year's April-1 snowpack in the Henry's Fork watershed was 85% of the median, which turned out to be only the 26th percentile over the last 33 years. So, what appears to get a grade of "B" is actually barely better than the lowest 25% of years. Bottom line: this water year is likely to end up among the driest 20-25% of years in the past 3-4 decades.

As for predictions, low-flow targets in the lower watershed are likely to constrain management from mid-June through mid-September. Streamflow in lower Fall River has a good chance of falling below 50 cfs, as last happened in 2016. Draft of Island Park may start prior to June 15, and the reservoir is most likely to end the summer between 17% and 47% full. For reference the median is 46% full. There is a 10% chance the reservoir will end the summer less than 17% full. For reference there, the reservoir ended the drought year of 2016 at 15% full. In the broader context, the last few "wet" years in the upper Henry's Fork subwatershed have barely been near the long-term average, and 13 of the last 20 have been below the 1930-2020 average. Most of the western U.S., especially the Southwest, is mired in a drought that has lasted roughly 20 years.

Allocations for Boat Inspections/Washing

Bryce Fowler, Fremont County

Fremont County will not be manning boat inspections stations for the state this summer. This year, county commissioners decided to let the state run the program themselves. The County wanted to wash every watercraft coming into Fremont County and the state felt the need was to focus on high risk boats. The county doesn't want to totally stop their efforts, but they don't have the budget to do what they are hoping to do this year. For next year, the county is looking at doing their own watercraft inspection program, separate from the state. They will try to man a few docks on Island Park Reservoir and Henrys Lake. They are asking for any input, insight or help to get them to a point where they can get the program launched.

Note: The Idaho State Department of Agriculture will still conduct two roadside stations in Island Park in 2021 – Hwy 20 and Hwy 89.

Community Building and Wrap Up

Jamie Laatsch, co-facilitator from the Henry's Fork Foundation called for one minute of silence to reflect on the meeting and prepare any final announcements or comments.