

Henry's Fork Watershed Council

Tuesday, October 9, 2018

Participants began registering at 8 a.m. at the Henry's Fork Foundation Community Campus in Ashton.

Aaron Dalling, of the Fremont-Madison Irrigation District (FMID), called the meeting to order. Participants introduced themselves. Aaron called for two minutes of silence so that participants could prepare themselves for a respectful and objective meeting, noting that it has been a tradition of the council since its inception. Aaron then opened up the meeting to any announcements or comments.

Community Building

Rob Van Kirk, Henry's Fork Foundation (HFF), welcomed Jeremy Dalling to the meeting. Jeremy started work with the Bureau of Reclamation (USBR) 3 weeks ago.

Jon Flinders, Idaho Department of Fish and Game (IDFG), announced that Dan Garren (former Fisheries Manager) has accepted a position as Regional Supervisor in Pocatello. A new fisheries manager will be hired for our region in the next few months.

Keith Esplin, Eastern Idaho Water Rights Coalition (EIWRC) announced that there will be a water 101 seminar for new legislators before the legislative forum in Idaho Falls on November 27th. The seminar will begin at 9 AM.

Upper Snake River Operations

Jeremy Dalling, US Bureau of Reclamation

Currently the Upper Snake Reservoir system is at 46% of capacity and near its low point for the water year. Current system content is 116% of average for this time of year, but around 990,000 ac-ft less than at this time last year, when reservoir carryover was well above average. Palisades Reservoir is 51% full, which is 116% of average for this time of year. Inflow to Palisades Reservoir during water year 2018 was 134% of the 1981-2010 average and the 11th highest since 1988. Island Park Reservoir carryover was the 10th highest since 1988, and water-year 2018 inflow was 99% of the 1981-2010 average. Overall, precipitation was above average around the upper Snake River region through June, but a very dry summer dropped water-year precipitation to average by the end of September. As irrigation demand drops, outflow from system reservoirs will continue to be decreased until winter-time levels are reached. Outflow from Minidoka Dam will be set at its usual minimum of 550 cfs. Most of this will spill past Milner until January, when construction on some of the canals will be finished and all of the Minidoka outflow will be diverted for managed aquifer recharge. Expected winter outflow from Island Park Dam will be 350 cfs.

Predictive Water Management Modeling: Results from 2018

Rob Van Kirk, Henry's Fork Foundation

Echoing USBR's observations for the upper Snake River basin as a whole, precipitation in the Henry's Fork watershed was solidly above average through June but fell to just a little above average by the end of the water year. Snow-water-equivalent was well above average at its peak in mid-April, but snow melted rapidly and was essentially gone by early June. By subwatershed, water-year precipitation ended up at 97% in upper Henry's, 103% in Fall River, and 102% in Teton River, for a watershed mean of 102%. Natural streamflow was 94% of average in upper Henry's, 113% of average in Fall River, and 114% of average in Teton River, for a watershed mean of 105% of average. However, natural flow was only around 85% of average during July, August, and September. Because of dry conditions, irrigation demand stayed high throughout September and early October.

Storage delivery from Island Park Reservoir began on July 3, right at its average timing but didn't end until September 25, about 12 days later than average. However, because of very precise management of the reservoir to keep streamflow in the Henry's Fork at St. Anthony at 1,000 cfs during delivery season, carryover in Island Park Reservoir was well above average, at 98,508 ac-ft (72.9% full) on September 30, compared with 58,949 ac-ft (43.6% full). During the period of storage delivery, average flow at St. Anthony was 1,081 cfs and fell below 1,000 cfs on 10 days. Over those 10 days, the average was 981 cfs.

At the May Watershed Council meeting, I presented predictions from my system-management simulation model, based on April-1 hydrologic conditions. The model performed well at predicting flow in Teton River and delivery of water to the Teton River through the Crosscut Canal. The model also performed well at predicting streamflow at St. Anthony through mid-September, but over-predicted flow after that, because delivery of storage from Island Park lasted almost two weeks longer than expected. This kept the 1,000-cfs objective in play until the end of September. Obviously, the model did not do well at predicting the large rain events in May and June and the resulting high releases of water from Island Park Reservoir during these events. However, the model predicted onset of delivery from the reservoir and general magnitude and timing of delivery through September. After that, outflow from Island Park was lower than predicted because inflow was much lower than expected due to the dry summer, and outflow was set just a little above inflow for most of September. The most important model output is Island Park Reservoir carryover, and the model performed well at this prediction. After accounting for observed summertime flow at St. Anthony, the model predicted September 30 reservoir content at 107,000 ac-ft, versus the observed value of 99,000 ac-ft, an error of only 7%. As it turned out, setting the St. Anthony flow target at 1,000 cfs back in May as a result of model predictions was a very good strategy for balancing irrigation and fishery needs in the lower Henry's Fork with carryover in Island Park Reservoir.

The South Fork Initiative: Status Update

Bryce Oldemeyer, Henry's Fork Foundation

The South Fork Initiative (SFI) is a project within the Henry's Fork Foundation (HFF) where HFF is expanding its science, research, and collaboration to the South Fork Snake River (SFSR). The project materialized from a grassroots group of guides, outfitters, and local citizens from the SFSR that asked HFF to extend their approach to conservation to the SFSR. The HFF board passed an amendment last spring stating that the HFF could work on the SFSR, so long as the SFI be completely funded by donations and grants from SFSR individuals and projects.

In May 2018, Bryce Oldemeyer (HFF employee) gave a presentation outlining proposed projects for the SFI. During this presentation (October 2018), he revisited those projects and provided an update on their progress.

Project 1. Create daily water report. Status-incomplete. Bryce sends out a weekly email to South Fork folks with flow updates, volunteer opportunities, etc. By Spring 2019, he hopes to have a weekly water report for the SFSR similar to the daily report that Rob Van Kirk sends out for the Henry's Fork.

Project 2. Assess Yellowstone Cutthroat Trout (YCT) three prong approach. Status-complete. Email Bryce at Bryce@henrysfork.org if you'd like a copy of report.

Project 3. YCT parental genetic project. Status-incomplete. Idaho Department of Fish and Game (IDFG) collected genetic samples from adult YCT at weirs along the SFSR this spring, but no formal project has been outlined and/or funded. SFI and IDFG intend to put a proposal together this winter.

Project 4. Outreach and media. Status- semi complete. Bryce sends out weekly emails but eventually SFI specific content will get highlighted through HFF and SFI specific media outlets.

Bonus project. Third Creek Restoration. SFI has been involved with a restoration project on Third Creek (tributary to Rainey Creek).

Future projects that the SFI will be engaged in for 2019 include annual invertebrate sampling, establishing a water quality monitoring network along the SFSR, additional restoration projects (likely on Rainey Creek proper), outreach and education, and fundraising events.

Henry's Lake: Status of the Fishery

Jon Flinders, Idaho Department of Fish and Game

Henry's Lake has been a recreational fishery since the 1800s and is the most popular lentic fishery in the state. The dam was built in 1924 for irrigation storage and the hatchery was built shortly after to mitigate for the cutthroat tributary spawning areas being inundated. Stocking

began in the 1940s for Yellowstone cutthroat trout with Brook trout (1950) and Hybrid (1975) trout stocked later into the fishery. The lake continues to be a stronghold for native Yellowstone Cutthroat trout in the area. Annually IDFG conducts spring sampling using 50 gill nets. The information from netting allows IDFG to monitor trends in the abundance and growth of trout. The management goal in Henrys Lake is 11 trout per net, which attempts to provide good trout abundance with adequate size. In 2018, spring sampling showed trout abundances were below the management target and were at 4.5 trout per net with decreasing trout over the last 6 years. Based on past stocking rates, IDFG estimated for 2018 there should have been ~9 trout per net. The lower than expected trout per net this year suggests survival may be limiting the population. Mortality rates from cohort analysis indicate that for the year class 2015 were at 83% compared to an average of 58/62% suggesting poorer survival may be resulting in the lower abundances of trout. With lower trout numbers the fish become “fatter” due to the increased abundance of food. Currently the condition on trout has been increasing with a lot of reports of large fish being caught by anglers. Since 2014, IDFG has been increasing stocking rates in response to decline in abundances. This fall year over 1.5 million fingerling trout were stocked around the lake.

Currently, IDFG is researching what may be influencing survival. Creel surveys in 2013 and 2016 suggest harvest rates remain low for both the open water and ice fishery. Total fish harvested in 2013 was approximately 25,000 trout and in 2016 approximately 5,000 trout. Current harvest rates are likely not significant enough to reduce abundances in the Henrys Lake. Utah chubs, a nuisance fish species, may impact trout through competitive interactions for food and space. An analysis in 2014 based on diets and stable isotopes of trout and chubs found that at current Utah chubs abundances competition for food resources may not be significantly impacting trout. Abiotic factors such as temperature and oxygen coupled with earlier ice off, and warming trends may be causing the lake to warm faster. Historic water quality data for Henry’s Lake has been limited. Thus, a robust, long-term water quality monitoring program may better assist in understanding of how these factors may be influencing trout survival. IDFG collaborated with the Henry’s Fork Foundation, Henry’s Lake Foundation, and Idaho Department of Environmental Quality to investigate warm summer water temperatures and low winter oxygen levels as potential factors limiting trout survival. Five sites have been monitored weekly for temperatures, dissolved oxygen, phosphate/nitrogen ratios, and algal loading since July. Thus far no algal blooms have been observed and dissolved oxygen is currently high. Current conditions appear good for trout going into this fall and winter.

Community Building and Wrap-Up

Keith Esplin, EIWRC, shared that he had seen an interesting article recently about a group that is restoring habitat for beavers and water benefits. It might be a way to partner with cities.

Jacob Gray, IDFG, shared that IDFG is involved in some of those projects in our area. They are working with Utah State University to come up with a model where reestablishing beaver habitat might be beneficial, especially to fisheries. If that is of interest to the HFWC, IDFG can bring someone in to give a presentation on those projects.

Sheryl Hill, citizen, shared that Lee Mabey of the Forest Service might have some information on the historic beaver projects in our area. She also commented that it is interesting how issues can cycle. Many years ago, it was thanks to the HFWC that the US EPA agreed to investigating non-point source pollution and TMDLs were created. Collaboration is valuable.