Blue Mountains trout news

Newsletter of the Ashokan-Pepacton Watershed Chapter of Trout Unlimited, #559
P.O. Box 119, Phoenicia, NY 12464
January 2021

Banner above depicts a foot-long Garden State wild rainbow, caught and released New Year's Day 2021. Let's hope 2021 is a far better year than the one just closed out.

January virtual Zoom meeting: On January 27th, at 7 PM, the chapter plans to host a virtual Zoom meeting. We are trying to arrange for Caroline Shafer of TU National as guest speaker. Caroline has been working with our East Branch Delaware committee, and was introduced to members in our October newsletter. Info to follow in separate electronic mailing.

Christmas 2020 Flood: Christmas 2020 was ushered in with heavy rains and major flood waters as several inches of rain fell on mountain snow pack. Regional stream flows exploded, several local roads were closed and damaged, while there was an avalanche at Belleayre Mountain where a section of it slid into the ski center. FYI: https://weather.com/news/weather/video/avalanche-damages-ski-lodge-in-new-york and FYI: https://cbs6albany.com/news/local/avalanche-damages-lodge-at-belleayre-mountain-ski-center

Additionally, storm waters damaged some USGS gaging stations in the Esopus Creek watershed and in some locations changed the stream enough that streamflow estimates based on previous ratings were no longer valid, most notably the Allaben station, USGS 01362200. The USGS Coldbrook gage reported a peak flow of 39,100 cfs, which makes it the twelfth highest flow ever recorded at Coldbrook, a USGS gage that has been in continuous operation since March of 1932, almost ninety years. Even with the Shandaken Tunnel closed due to ongoing repair work, DEP reported flows into the Ashokan Reservoir were the highest and most turbid reported since Hurricane Irene, back in August 2011 when the Coldbrook USGS gage hit an all-time high flow of 75,850 cfs.

It may take time for conditions in the Esopus Creek watershed to settle down, and who knows how this effected the Schoharie Reservoir and what conditions we might expected when the Shandaken Tunnel eventually reopens later this year. I asked Dany Davis, geologist for NYC DEP, plus Ashokan Watershed Stream Management Program participant and friend of our chapter, for impressions of the December 25th event and

received the report below. (Editor's comment: Please note an Annual Peak Flow is the greatest flow recorded in a given water year. A Daily Peak Flow is the greatest flow recorded on a particular day. It is possible a given water year--- defined below--- could have two big Daily Peak Flows for that year larger than an Annual Peak Flow in a different water year; such was the case in 2010.)

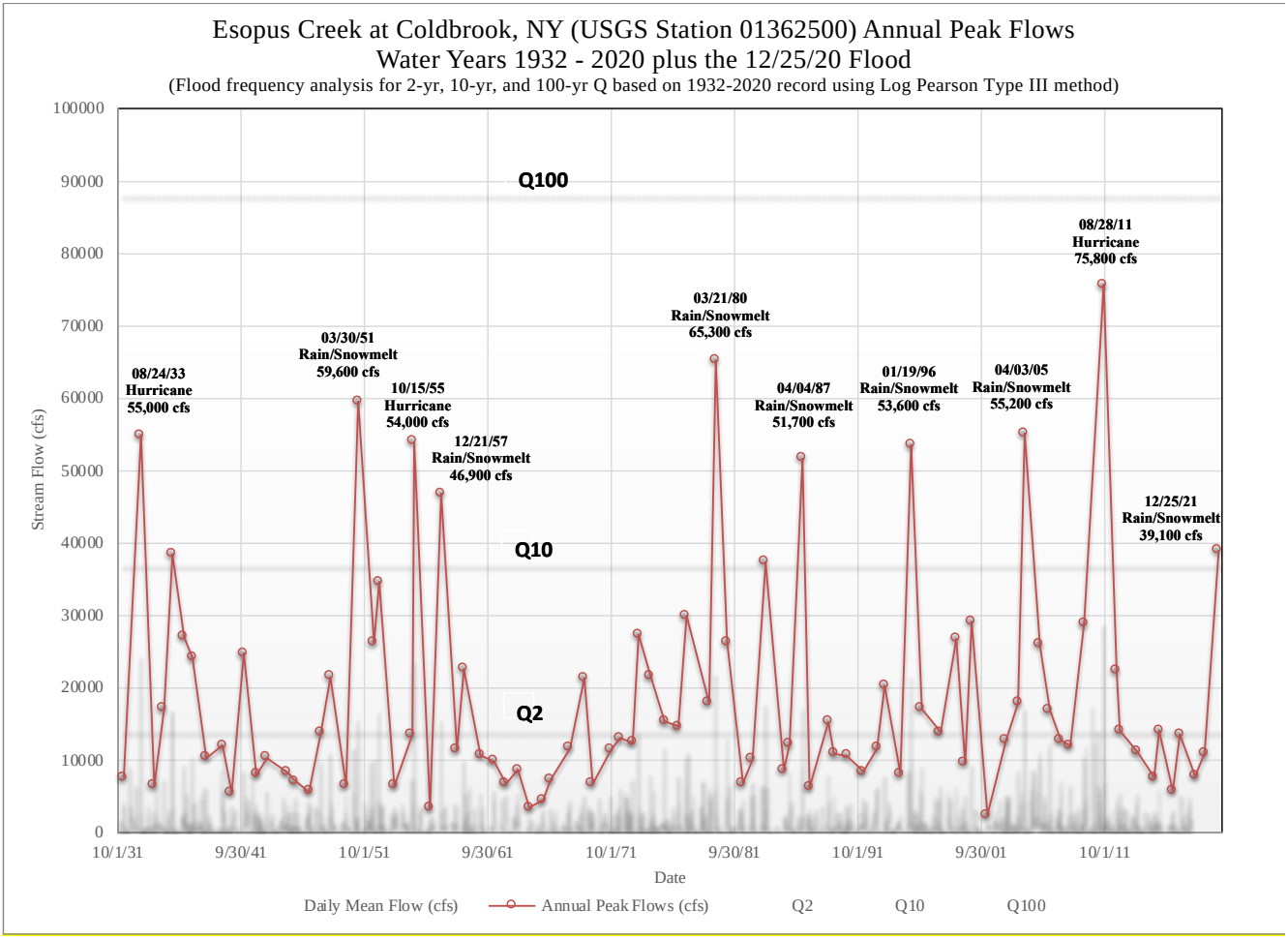
I updated the annual peak flow hydrograph (see graph below) for Esopus Creek at Coldbrook to include the Christmas 2020 flood even though it isn't officially the peak flood for water year 2021 (10/1/20 - 9/30/21) yet since we are only in the beginning of the 2nd quarter of the water year, but chances are it will be the peak flow. Each point on the line is the largest flood recorded for a given USGS water year. A USGS water year runs from 10/1 of a given calendar year through 9/30 of the following calendar year. For example, water year 2011 ran from 10/1/2010 – 9/30/2011.

Some points to note:

- In the annual peak series the Christmas 2020 flood is the 10th highest magnitude flood in the nearly 90 years of record for the Esopus Creek at Coldbrook station.
- In the daily peak series it appears to be the 12th highest magnitude flood in the nearly 90 years of record. This is because water year 2011 had three floods bigger than the Christmas 2020 flood. The 10/1/2010 peak flow is 43,600 cfs and occurred on the first day of water year 2011. The 12/1/2010 peak flow is 39,800 cfs. Both flows were exceeded by the Tropical Storm Irene flood (8/28/2011) peak flow of 75,800 cfs which then became the peak flow for water year 2011. There may be other interannual peaks that exceed the 39,100 cfs value but in my preliminary inspection I have not found them. I'll look into this more later on.
- I updated the Log Pearson Type III flood frequency analysis to include the latest USGS approved water year annual peak series through water year 2020. The 39,100 cfs peak flow for the Christmas 2020 flood corresponds to a statistical 11-year flood. I also updated the flood frequency estimated 2-year, 10-year and 100-year flood magnitudes for the Coldbrook station and plotted those on the hydrograph for reference.
- This was also an 11-year magnitude flood for the Stony Clove Creek at Chichester station according to the flood frequency analysis of the 23-year period of record. It was the 4th highest in the 23-year record.
- For the other stream monitoring stations for Esopus tributaries that have a period of record sufficient to run a flood frequency analysis (minimum period of 10 years) and recorded the peak flow (some didn't), this event ranged from a low of a 3-year flood for Little Beaver Kill and a high of 8.5-year event for Birch Creek.
- Hollow Tree Brook in the Stony Clove watershed seems to have had the highest relative magnitude with a 15-year statistical recurrence. The Beaver Kill peak flow was not recorded, but indications are that it was definitely greater than a 5-year recurrence. Once USGS is able to provide an estimate of that flow we can compute its recurrence interval.
- On the annual peak hydrograph, you can see that 7 of the 10 highest annual peak floods at the Esopus Creek at Coldbrook station are rain/snowmelt events.
- Using the Esopus Creek at Coldbrook station and the Stony Clove Creek at Chichester station we can say that this event produced the highest sustained monitored turbidity since 2011. This is not unexpected given the magnitude of the streamflow. This was our biggest streambed mobilizing event since TS Irene and the rising limb and peak flow of the event re-suspended the fine sediment (silt and clay) stored in the streambed alluvium throughout the stream network. Anybody that has stood on the Esopus Creek streambed and shuffled their feet can see the temporary plume of turbidity from that stored fine sediment. The sustained turbidity that we are still observing nearly 3-weeks later can be tracked to several tributary streams using our research monitoring stations. Currently turbidity above 10 FNU is being recorded at the following stations:

- Stony Clove Creek @ 55.2 FNU (Hollow Tree Brook and Ox Clove Creek are main sources with last reported turbidity exceeding 100 - 200 FNU)
- Woodland Creek @ 49.2 FNU
- Birch Creek @ 36.8 FNU
- Beaver Kill @ 11.0 FNU
- Broadstreet Hollow and Bushnellsville Creek have elevated turbidity but I cannot get a current value since that data is not provided online in real time.

- In all these streams, sustained turbidity is mostly coming from erosive contact with glacially-sourced fine sediment and periodically spiking from disturbance due to in-stream work.



The chapter thanks Dany Davis for analyzing and making this data available and on-going efforts on the Esopus Creek watershed. Below are recent images of the turbid Ashokan Reservoir following the storm event.

Acid rain report: Jody Hoyt reported the following rain readings for December, as measured in Boiceville, NY. There were 11 measureable events with 7.43 inches of liquid precipitation, including 15.3 inches of snow, with a 5.5 weighed pH. By comparison in December 2019 there were 7 such events with a total of 7.14 inches of liquid precipitation, including 17.0 inches of snow and 5.6 weighted pH. Jody noted in 2018 he measured 78.83 inches of liquid precipitation including 69.0 inches of snow, in 2019 those yearly numbers were 62.35 inches of liquid precip including 67.5 inches of snow, while in 2020 he measured 60.65 inches of liquid precip including 38.3 inches of snow. Jody noted historical averages are 52 inches of liquid precipitation including 80 inches of snow. Thank you, Jody, for these ongoing efforts.

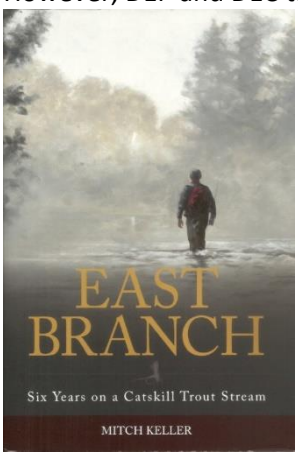
NOAA, the National Oceanic and Atmospheric Administration, just reported 2020 as the second warmest year, globally, ever recorded. FYI: https://www.noaa.gov/news/2020-was-earth-s-2nd-hottest-year-just-behind-2016#:~:text=It's%20official%3A%202020%20ranks%20as,an%20analysis%20by%20NOAA%20scientists. Climate change is upon us.

As noted above, the USGS Coldbrook gage has been reporting Esopus Creek stream flows since March 1932, just about ninety year. During this period of time, there have been only eleven flood events that exceeded peak daily flows recorded on Christmas Day 2020. Since the start of the 21st Century on January 1st, 2001, five of these total twelve events--- including Christmas 2020--- or roughly 42% of the worst floods recorded at Coldbrook in the last ninety years, have occurred ***in less than a quarter of that entire time period***. Clearly large storm events have become more frequent, significant and intense, consistent with climate change predictions.

Proposed Trout Stream Regulations Comments: As reported in last month's newsletter, the New York State Department of Environmental Conservation (NYS DEC**)** has updated and approved their New York Trout Stream Management Plan. DEC is still requesting/accepting comments on proposed regulations associated with the Plan until January 25th, 2021. Proposed regulations are found here: https://www.dec.ny.gov/regulations/34113.html under the Amendments to Trout Stream Sport Regulations. It is suggested the reader ignore 10.3 (b) --- pages 1 through 37--- and focus on 10.3 (e) --- pages 38 forward.

Comment should be email to: regulations.fish@dec.ny.gov or mailed them to: Fred Henson, NYS DEC, 625 Broadway, 5th Fl., Albany, NY 12233-4753. Recently chapter president Mark Loete submitted a letter on behalf of the board of directors, and chapter in general, in support of the Stream Management Plan and classification of the Esopus Creek as a Wild-Quality stream.

Esopus Creek/Shandaken Tunnel: Also, as reported in last month's newsletter New York City Department of Environmental Protection (NYC DEP) turned off the Shandaken Tunnel so renovation work could continue on the Tunnel intake without jeopardizing the lives of divers doing this work some one-hundred-eighty feet deep in the shaft. It is not anticipated that the Tunnel will be turned back on before sometime in February. However, DEP and DEC talk weekly to examine Esopus Creek flows and other conditions. If it is determined project restoration work needs to stop, DEP can return the tunnel to service within forty-eight hours.



East Branch: Six Years on a Catskill Trout Stream by Mitch Keller: Since many of our members are interested, and live near the East Branch of Delaware River upstream of NYC's Pepacton Reservoir, this book might hold interests to some. It's about an individual's struggle, and fishing, trying to get by living in Margaretville with no steady source of employment. Keller's stories occasionally appeared in the *Woodstock Times* and *Catskill Mountain News*. Various opinions of the book can be found here: http://classicflyrodforum.com/forum/viewtopic.php?f=89&t=134245 Personally, I enjoyed it.

Ashokan Watershed Stream Management Program (AWSMP): Don't forget, AWSMP is seeking contributors to their "Love Your Stream Video and Art Project" featuring videos, photos, and/or artwork of the Esopus Creek watershed through March 17th. Check here for details: http://ulster.cce.cornell.edu/events/2021/02/24/love-your-stream-video-and-art-project

Treasurer's report: Jody Hoyt reports as of the end of December the chapter had $13,058.75, with $12,271.07 in the General Operating Fund and $787.68 in the Conservation Fund, which is unchanged since last month.

Membership: As of this newsletter, our membership stands at 112 members. This month we welcome Angelo DeCicco of Shandaken and Brian McDonald of Mt. Tremper as new members. Welcome! Just as a reminder, as always new TU members can join for half the "regular" membership fee, or $17.50, of which the chapter receives a $15 rebate from National. This might make for as nice Holiday Present for someone you know. Applications: http://www.apwctu.org/pdfs/TU_membership_brochure2018_web.pdf For membership questions, contact me at: Tailwaters@Hvc.rr.com

Newsletter: This issue was sent electronically to all chapter members and friends that we have valid email addresses. If you received this and would rather not, please hit **REPLY** and write **REMOVE** and hit **SEND.**

Beyond our watersheds and other news: Here's a YouTube video that might readers---Autumn on the West Branch Delaware – Fly Fishing Epic Blue Winged Olive Hatch: https://www.youtube.com/watch?v=uXqUjN-X5Lw&feature=youtu.be

And here's a Podcast involving Nick Lyons and Tom Rosenbaum: https://orvisffguide.libsyn.com/the-godfather-of-modern-fly-fishing-books-nick-lyons And, don't forget all those great Podcasts available at the Jerry Bartlett Angling Collection of the Phoenicia Library: http://www.catskillanglingcollection.org/

A 2020 "Fishing Recap" from NYS DEC: https://content.govdelivery.com/accounts/NYSDEC/bulletins/2b37613

A December 2020/January 2021 digital New York State Conservationist: https://cloud.3dissue.com/129417/129610/151833/DEC2020NYSConservationist/index.html

NYS DEC announced the availability of Ashokan Reservoir Water Release Proposal for Public Review---

NYS releases Draft SPDES Permit Modification and Draft Environmental Impact Statement for Ashokan Reservoir Releases for Public Comment: https://www.dec.ny.gov/press/121999.html This center on water releases **from, and downstream of NYC's Ashokan Reservoir**. Readers might be interested, and to the extent downstream releases from the Ashokan Reservoir might impact water diversions from the Shandaken Tunnel, the chapter would be interested in that aspect.

Useful links:

Ashokan-Pepacton Watershed Chapter Trout Unlimited**:** https://apwctu.org/

Ashokan Watershed Stream Management Program: http://ashokanstreams.org/

CWC Watershed Currents: https://cwconline.org/watershed-currents-e-news/

Delaware County Soil and Water Conservation District: http://www.dcswcd.org/Stream%20Program.htm

Esopus Creek hatching chart: http://www.catskillanglingcollection.org/

NYC DEP Reservoir Levels-Releases:
https://www1.nyc.gov/html/dep/html/drinking_water/release_channel_levels.shtml

Rondout Neversink Stream Program: http://www.rondoutneversink.org/

Until next time,
Ed Ostapczuk
Jan. 16th, 2021