



BRASSnews

Newsletter of the Boquet River Association, Inc. SPRING 2024

Join Us: BRASS Annual Meeting on May 10

The 2024 Annual Meeting will be held on Friday, May 10, 2024 from 5:00 PM to 7:30 PM at the new BRASS office located at the Town of Willsboro Visitors Center at 3743 Main Street in Willsboro. Light refreshments will be available. A video of the Salmon Symposium from earlier in the day will be shown during the Meet and Greet session and at 6:30 PM we will be joined by Josh LaFountain from The Nature Conservancy (TNC) to provide an overview of the Boquet

River Partnership Program (BPP). The BPP is a collaboration of numerous organizations and agencies including BRASS, Trout Unlimited, Ausable River Association, TNC, US Fish and Wildlife Service, NYS DEC, Town and County DPW's, Soil and Water Conservation District, Lake Champlain Basin Program and others to improve water quality, habitats, public access, climate resilience and reduce flooding in the Boquet River Watershed.

President's Report

By Vic Putman



Our organization has not had an easy transition in the past decade compared to where we are today with hope, opportunity and perseverance. Our river connects us in many ways, it continues to flow, providing essential services that improve our wellbeing, sitting by the river is a favorite pastime for many when, of course it is safe. Floating, swimming, fishing, walking and hiking near the water, is always thought provoking and helps us renew. Enjoying these aesthetics makes us stronger and provides energy to help support a functional ecosystem. This energy is exemplified by the members of BRASS who respect the intrinsic values of a healthy river, thriving communities and a shared commitment. It is worth noting

that New York uses the water quality of the Boquet River as the epitome of clean water that other rivers in the state are compared to and aspire to be, maintaining that distinction is our collective responsibility.

Our Board of Directors has provided such a strong, energetic and capable foundation as evidenced by our successes to date. We have emerged into the digital universe with high hopes and effective governance through leadership and self-sacrifice with time and capabilities beyond expectations. In recognition of these dedicated neighbors we would respectfully request your membership renewals to further our work for the Boquet River that connects us and the communities we share.

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Board of Directors

Vic Putman, *President**
Bob McGoldrick, *Vice President*
Schell McKinley, *Treasurer*
Lukas McNally, *Secretary*
Anita Deming
Tom Doolittle
Matt Foley
Chris Fuller
Jess Grant
Kathy Linker
Bruce Misarski
Laura Newmark
Colin Powers
Charlotte Staats

Town Representatives

(Appointed)

Anita Deming - Elizabethtown
Vacant - Essex
Lukas McNally - Lewis
Colin Powers - Westport
Vic Putman - Willsboro

Our Mission

BRASS is dedicated to enhancing the quality of water and life in the Boquet River watershed.

BRASS Board Meetings are held on the first Monday of the month at 6:00 PM at the Wadhams Free Library. All members of the public are welcome to attend. Email to confirm date, time and location monthly.

**Boquet River Association,
Inc. 5 Farrell Road
Willsboro, NY 12996**

info@boquet-river.org

The newsletter was prepared by Jess Grant with written contributions from the Board. All pictures were taken by BRASS or are public domain unless otherwise noted.

(President's Report continued from page 1)

Here are a few of our projects in the works:

- **Elizabethtown Pool Digger Barrier Removal:** Located downstream of the closed Forge Lane Bridge on County Route 8, BRASS helped to rebuild this structure in 1995. However, its outdated design obstructs sediment flow, causing erosion and flooding. Collaborating with partners like Essex County DPW, NYS DEC, Ausable River Association, The Nature Conservancy, US Fish and Wildlife Service, and the Lake Champlain Basin Program, we aim to replace it with a natural stone feature to restore the river's channel. Similar efforts have succeeded near Keene Valley. Recent flooding incidents and road closures underscore the urgency. As such, BRASS is facilitating stakeholder coordination, targeting removal by late summer or early fall.
- **Beaver Brook Watershed:** Located in Essex and Westport, this small area serves primarily for agriculture and forestry but is also a haven for birdwatchers and outdoor enthusiasts. It's home to rare species like the Wood turtle, known to live up to 60 years, and the timber rattlesnake found on Split Rock Mountain, the northernmost extent of its range. Trout Unlimited assessed nine culverts crucial for draining farmlands and forests, revealing seven severe obstacles to Aquatic Organism Passage (AOP). BRASS and the Ausable River Association are collaborating on eDNA testing to identify resident species and improve culvert design for biodiversity and flood prevention.
- **Willsboro Salmon Pool Cribbing Repair:** For salmon fishers, there is no better location for trying your luck and skills than at the base of the Cascades in Willsboro. However, the cedar logs stabilizing the bank and providing a platform to fish from have deteriorated since construction led by Robin Ulmer with assistance from Moriah Shock and DEC in 1995. Project planning for the restoration of this important asset began last fall when BRASS met with DEC staff and the Town to initiate a cooperative solution to repair the site. NYS DEC has offered to provide new cedar logs to replace the first tier of logs, which would stabilize the structure and eliminate the current treacherous situation. We are also coordinating with the Mineville-BOCES Natural Resource Conservation class for hands-on student involvement. Weather permitting, completion is targeted for this fall, coinciding with the salmon spawning run.

Mark your calendars for April 26 and 27 to help us plant 1,000 trees with partners (page 7) and for May 10 for our annual meeting (page 1) to join us in celebrating many successes this year. Happy spring!

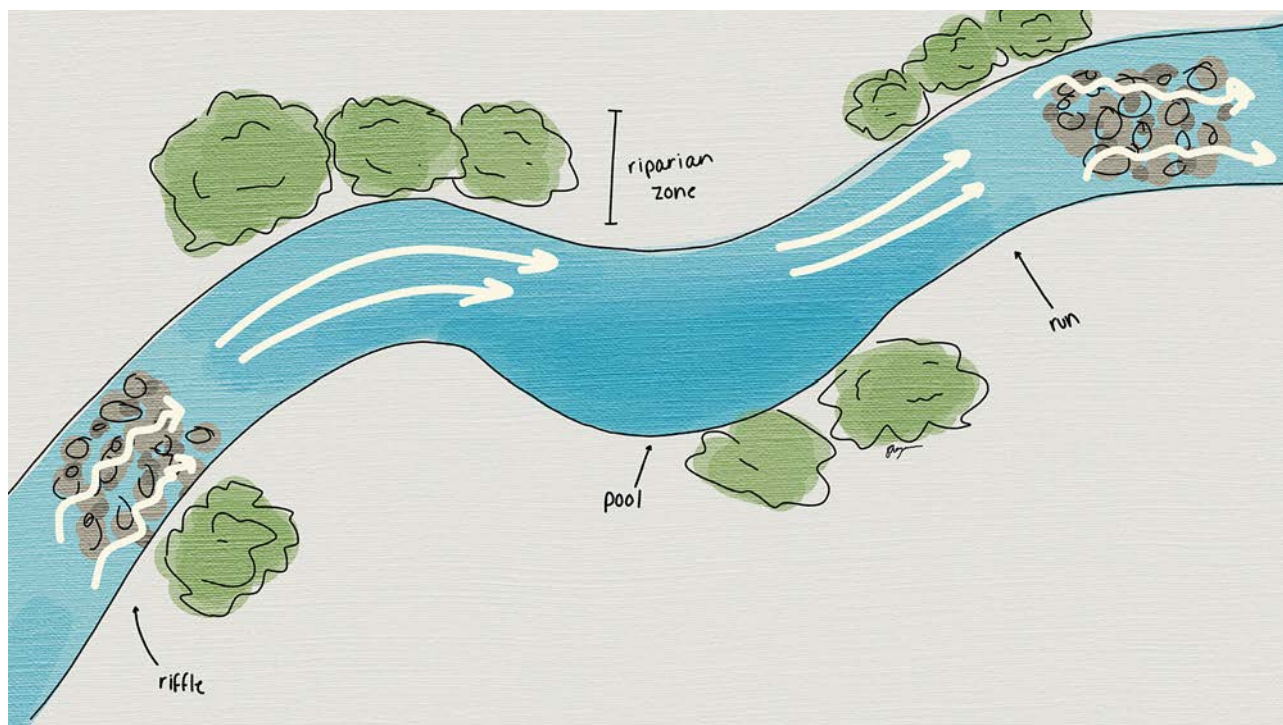
River Hydraulics, and a Fond Farewell

By Anita Deming

I am sorry to say that I have left the Boquet River watershed and moved to Shepaug River watershed in Washington, Connecticut. It is a big change, but I am much closer to my children and grandchildren now. Also, I hope the warmer weather reduces the chance of slips and falls which have been especially bad for me these past few years. It is very hard to leave the Adirondacks, and all it has meant to me, and all the wonderful friends I have made over the last 45 years. I hope to return frequently.

Before I leave, I want to impart a few things that I have learned about how water and rivers move. I know you have watched water go down the drain in a swirling direction. This is due to the spinning of the earth and the Coriolis effect which mimics “centrifugal force,” felt on the crazy ride at the fair that pins you against the wall. Water moves down the river in a spiral as well, contributing to erosion with the water undercutting on the outside of a curve and depositing on the inside of a curve. The steeper the gradient the straighter

the river will flow due to plain old gravity, but when it hits a more level contour it will dissipate that accumulated speed. The river bends making the water move over a longer path allowing that accumulated energy to dissipate. This is when 3 main features of rivers are created: pools, riffles, and runs. Interestingly, there is evidence of the Boquet’s meandering over the years in the oxbows showing former courses of the river. In my scientist’s brain, I call it the river’s “wiggles.” Rivers are naturally wiggly.



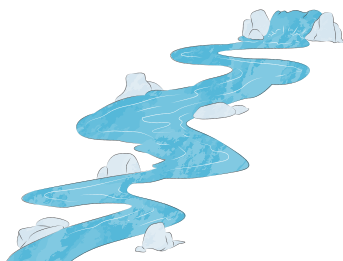
Source: https://figshare.com/articles/figure/Stream_Habitats_Illustration/23902461/1

(River Hydraulics continued from page 3)

As the water flows downward in addition to the Coriolis effect, there are underlying features such as stones, bedrock, trees or dams that slow the water causing a **pool** to form behind it. Fisherpersons know these as the place to look for larger fish. There is a saying that goes, “five little fish go into a pool and one big fish comes out” as the bigger fish eat the smaller ones easily in deep pools. These are identified as great places to swim as well. The biggest pools are at the end of waterfalls, but there are many smaller pools along the river as well.

After the pool comes the **riffle**, where the water moves faster and gravel or rocks protrude. The riffle is where the water becomes oxygenated. As the water moves along it pulls oxygen from the atmosphere down into the voids under the rocks. You will notice a lot of bubbling in the water. If the rocks are above the streambed, they can aerate the water. If the sand covers a rock more than 50%, then it will not aerate the water. Aeration is important for life in the water, both for the fish and the aquatic insects that they eat. Riffles are most prominent in the upper reaches and tributaries. The aeration is carried through the watershed all the way to Lake Champlain.

This is why we worry about sediment in our rivers. Sediment comes from bank erosion and surface runoff, filling in the riffles making them less effective at providing oxygen for aquatic species. The Essex County Soil and Water Conservation Department (SWCD) is dedicated to reducing nutrients and sediment in rivers. If you own property on a river or stream and are interested in making your property more environmentally valuable, I encourage you to contact SWCD at 518-962-8225 for more information.



The last major feature of rivers is the **run** or **glide**. The water here moves more slowly and deposits its sediment load. Fish can spawn here, and small young fish can grow along the riverbanks among the plants, nooks, and crannies. The water is slow enough so the aquatic insects can hold on and grow into food for the fish downstream.

Rivers are complex and impacted by the surface features around them. Pools, riffles, and runs are present based upon various surface features. Rivers also benefit from brush and tree cover in and along their banks for erosion control, for shade to cool the water, and may provide shelter from fish-eating birds. The larger brush and trees along brooks and rivers are called greenbelts. Greenbelts are the best when they are 150 +/- feet in width, providing a buffer strip to allow filtration of run-off from nearby lands and hold soils in place.

I often enjoy just standing next to the Boquet River watching its exhilarating and refreshing renewal of life. What a simple way to communicate with nature and gain inner comfort. There are also those flooding days when anything may happen, and the drought times when we know all life in the watershed is being stressed, making our work all the more important.

I am looking forward to learning more about the Shepaug River in Connecticut. I see it every day. If you would like to contact me in CT, use my email AnitaLDeming@gmail.com.

Anita was a past president of BRASS and one of the founding members in 1985. Her wealth of knowledge on the Boquet and her impact on the watershed and its residents has been profound. We will miss her enthusiasm, passion, and get-'er-done attitude. Lucky for us, she's just a phone call away. Cheers to your next adventure, Anita!

Floods on the Boquet



By Colin Powers

Floods are a natural feature of a steep watershed like the Boquet and they alter both the ecological and human elements of the valley. The region has experienced 250 years of logging, agriculture, industry and residential build-out – all of which has affected the flood regime. We continue to shape and adjust our human communities and infrastructure to manage the risk, but our much-modified river basin will continue to see significant floods in years to come.

Floods prior to the 1920's were poorly recorded, but early home builders tended to build in uplands where risk was mitigated. In the 19th and 20th centuries, home and commercial building expanded into floodplains where risk of damage to property and human safety became dire (see photos).

Starting in 1924 the USGS river gauge at Willsboro has tracked the Boquet's height and discharge (amount of water). As seen in the table below, the frequency and intensity of high water has steadily increased. Despite the regrowth of forests (which reduce runoff), these events have led to human and livestock deaths, inundated and damaged farms, buildings, roads, and bridges with millions of dollars in replacement costs (Zembrzuski, 1981).



1912 ice jam flooding on the Boquet River
(Looking east across the river towards Main Street)
Source: Photograph provided by the Willsboro Historical Society



Whallonsburg, NY 1996 (BRASS)



2003 ice jam flooding on the Boquet River
(Looking upstream from the Route 22 Bridge)
Source: Vic Putman, GARC&D

(Floods on the Boquet, continued from page 5)

Over recent decades, warmer annual air temperatures have resulted in the atmosphere holding 4% more moisture than it did in the 1970's. This increased humidity has an exaggerated effect on rainfall – boosting rain and storm activity by 5 – 10% (Santer et al., 2007). As many of us in the watershed remember, in 2023 the Boquet recording two floods over 8' and the second highest one on record at 11' just before Christmas.

After Tropical Storm Irene in 2011, much has been done to reduce exposure by moving homes and businesses, “right sizing” culverts and bridges and improving floodplain buffer zones to slow down the river’s velocity. For 35 years, BRASS has undertaken projects to assist landowners and municipalities in stabilizing riverbanks and improving streamside vegetation to help manage floodwaters in the Boquet and its tributaries. Today, BRASS is working with many partners on projects of this kind, and flood resilience will continue to be a top priority for the organization.

Here are some flooding safety tips:

- **Stay informed:** Monitor weather conditions on local TV, radio, social media or at weather.gov
- **Get to Higher Ground:** Move out of areas subject to flooding.
- **Obey Evacuation Orders:** If told to evacuate, leave immediately. Lock your home and disconnect utilities and appliances if there is time.
- **“Turn Around Don’t Drown”:** it’s NEVER safe to walk or drive through flood waters – just 6” can knock you down, 12” can sweep a car away.

- **Electric Safety:** Don’t go into any room or basement that has submerged cords or outlets.
- **Clean Water:** Listen for boil water advisories and never drink or wash in flood water.
- **Local conditions:** Track the level of the Boquet in Willsboro at this link or search “USGS Boquet River.”



2011 flooding on the Boquet River
(Looking upstream from the Route 22 Bridge)
Source: Vic Putman, GARC&D

Timeline of disturbances & floods in the Boquet River watershed

1767	1 st sawmill in N. Adirondacks (Willsboro)
1820s – 60s	Boquet clearcutting
1903	Massive wildfires in watershed
3/4/1913	Ice jam destroys RR bridge & Willsboro
10/1/1924	10.85' flood in Willsboro
3/29/1925	9.23'
5/19/1936	9.13'
3/6/1964	10.12' flood in Willsboro
11/27/1979	9.6' 5 motorists die in Elizabethtown flood
4/1/1987	9.6' flood in Willsboro
3/11/1992	10.26' Whallonsburg residences damaged, livestock lost
3/30/1993	9.22'
1/20/1996	10.88' \$5.6 million in damages
11/9/1996	10.93' Elizabethtown flooded, 3 bridges destroyed.
4/27/2011	9.22'
8/29/2011	12.13' Tropical Storm Irene floods (16,000 cfs) 260-yr flood
6/29/13	7.94' Evacuations and road closures in Elizabethtown
11/1/19	9.15'
5/2/ 23	8.18' Westport home severely damaged.
10/8/ 23	8.38' roads damaged throughout the region
12/19/ 23	11.00' roads damaged, Westport house again severely damaged

Source: NOAA NWS. *Recent Crests for Boquet River above Willsboro*. Water.weather.gov. https://water.weather.gov/ahps2/probability_information.php?wfo=btv&gage=wlbn6

Sources:

Zembrzuski Jr, T. J. (1981). Flood of November 26-27, 1979, in Essex County, New York. Open-File Report. <https://doi.org/10.3133/ofr811024>

Santer et al., (2007). Identification of human-induced changes in atmospheric moisture content. *Proceedings of the National Academy of Sciences*, 104(39), 15248-15253. <https://doi.org/10.1073/pnas.0702872104>

Grants Approved!

The Boquet River Association (BRASS) has been awarded a Workforce Development grant by the Lake Champlain Basin Program to hire its first full-time Executive Director in over 10 years.

A matching gift from the Town of Willsboro will provide BRASS with new headquarters directly on the banks of the river in the Willsboro Visitor Center at 3743 Main Street. An additional grant from the Lake Champlain Basin Program will

fund a new Strategic Plan and training for the Board of Directors to help maximize the new employee's contributions.

Our Board of Directors have confronted our most important need that will provide the energy and capability to help us improve infrastructure, provide access and create a more sustainable ecosystem that the founders envisioned in 1985.



Celebrate Arbor Day the Right Way!

BRASS is teaming up with Trout Unlimited, Essex County Soil & Water, the Arbor Day Foundation, and Verizon to bring you the Boquet River Arbor Day Tree Planting event on **April 26 and 27**, right here in your own back yard. The event is **free** and **open to all ages!**

By working towards the reforestation of the river corridor, we are defining the river for what it once was and what it still is - a superhighway for wildlife. The structure we install when we plant trees is hearth and home for wildlife. But that's not all trees do. Trees stabilize soil, and eventually, trees die and fall in the river. This dead organic material benefits not just the biology of the river, but also its ability to store water and regulate river flows. Tree jams, beaver dams and additional forms of floodplain wood sequester contaminants and trap sediments upstream, safeguarding our fish spawning habitat and drinking water.

So if getting out doing some good work in your community for Arbor Day sounds refreshing to you, then register for one or both days by using the QR code below. Get excited about the good work going on all around us!

Scan Me!



Use your phone's camera app to scan

SALMON SYMPOSIUM, MAY 10

The Salmon Symposium will be held on Friday, May 10th **Noblewood Park Pavilion in Willsboro from 11 AM to 2 PM**. The event is open to the public interested in the progress, planning, and future of salmon restoration in the Lake Champlain Watershed. Speakers will include Laurie Earley, Chris Smith, David Minkoff from US Fish & Wildlife Service and Nicole Balk from New York Department of Environmental Conservation. The Town of Willsboro will provide refreshments. Annual meeting to follow at 5 PM at the Willsboro Visitor's Center (more details on page 1).



Boquet River Association, Inc.
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Willsboro, NY 12996

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