

Musconetcong Watershed Association

Annual Review 2017

Celebrating 25 Years



MUSCONETCONG
WATERSHED
ASSOCIATION

A Note from the Board President

-Tish Lascelle

It's February 21st as I sit down to pen my annual letter -- and it's 72 degrees. Yup -- in February. Whoa!

I confess I'm loving it, but I'm also vaguely troubled by it. I'm thinking back to last summer and how hot summers affect the Musconetcong River. We have one of the cleanest rivers in NJ, but last year we saw some of the warmest river temperatures in our nine years of monitoring. Warm water means there is less oxygen in the river; bacteria reproduce more quickly and pollutants can form toxic materials. This is not good for fish and other aquatic life in and around the river and needs to be monitored to ensure safety for recreation.

MWA can't control the weather or our climate, but we still do a lot to protect the river. The water upstream of dams is very warm, so every time we remove a dam, we lower the river temperature in that area. We also reduce temperature by planting riparian buffers with shade-producing trees, and with partner NJRC&D, we install rain gardens that capture and filter stormwater runoff.

Many of you helped us celebrate 25 years of river stewardship this past year. That stewardship included being a watchful monitor of property development in our Watershed and being an outspoken voice on issues like the State Water Supply Plan, the Highlands Master Plan and the Freshwater Wetlands Act.

We are looking toward the future strategically and creatively. The Asbury Mill restoration is deepening our role in the cultural aspects of our Watershed and we are thinking more about the interrelationship and integration of the river with social and economic values of the region.

Thank you for your continuing support of the Musconetcong Watershed Association.

Sincerely,

Tish Lascelle

MWA Board President



A Note from the Executive Director

-Alan R. Hunt, Ph.D.

One of the fun but rare events for me is to meet with Executive Directors of other watershed associations and conservation organizations. In February, 22 Directors met for lunch at the Delaware River Watershed Initiative's Winter Gathering. To get the meeting going, the facilitator asked us to line up by volunteer impact, budget, and organization size. I'm proud to say that for this quick exercise we were second in volunteer impact, primarily because of our committed and repeated support of volunteers for the Annual River Clean Up, River Watchers, and other volunteer activities. On budget, we were in the middle of the pack, mainly because of our large-scale restoration projects, like the Hughesville Dam removal. As for staffing, we are pretty small. While we have a staff of five, three work on MWA projects part-time. We're small, but have an out-sized impact because of our volunteers.

Volunteerism and partnership are at the core of being a *Partnership* Wild and Scenic River. Each year we report to the National Park Service our volunteer impact. This includes adding up the hours volunteers spent on the River Clean Up, River Watchers, our Board's service, and at outreach events. For 2017, that added up to over 5,000 hours. When we did the math, the dollar value of those volunteer hours was just about equal to the federal funding we received to implement the education, outreach, and water quality programs supported by being a *Partnership* Wild and Scenic River. Volunteers doubled our impact!

This year, 2018, is the 50th Anniversary of the Wild and Scenic Rivers Act. To celebrate and help us tell our story, the Musconetcong's story, and the Wild and Scenic Rivers Act's story, we were featured in a National Park Service film. We were selected because of our success in restoring the natural, free-flowing conditions of a river. Last year's return of the shad was an amazing ecological success and also an important symbol of the promise of ecological restoration that no one expected to witness so quickly after the Hughesville Dam was removed. We've got a great story to tell, and we're proud that our story is communicating the importance of Wild and Scenic Rivers to the nation.

In every way, our small but mighty MWA embodies what it means to be a *Partnership* Wild and Scenic River, and we can't do it without you.

Sincerely,

Alan R. Hunt, Ph.D.

MWA Executive Director



Hughesville: 1 year later...

MWA welcomes the return of the shad!

Last June, MWA was excited to learn that a major goal of our dam removal work had been realized: a small number of American shad had been found in the Musconetcong River for the first time in centuries. These beautiful metallic green or blue fish are native to the Delaware River and its tributaries such as the Musconetcong, but they had not been documented in our river in 300 years. With the removal of the Hughesville Dam in 2016, these fish were finally able to find their way to the foot of the Warren Glen Dam.

American shad are an anadromous fish, meaning they spend most of their lives in saltwater, but spawn in freshwater. In spring, the adults stop eating, leave the ocean and migrate to the river or stream where they were born to spawn—biologists think they find their “home” waters by smell! Females lay hundreds of thousands of eggs; the fertilized eggs drift downstream and hatch within a week to ten days. The adults return to the ocean or die after spawning. The young shad make their way to “nursery areas,” and in the autumn migrate to the ocean. They spend a few years in the ocean before they visit their home waters and become adults, and the cycle begins all over again.



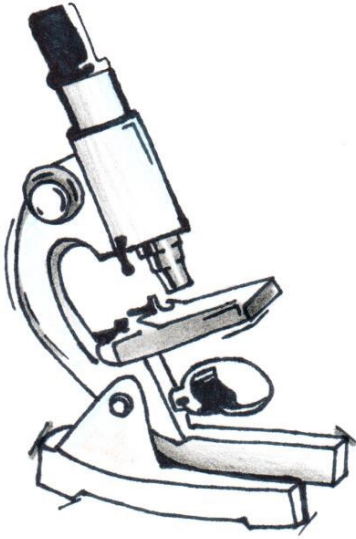
**Pat Hamilton,
Principal Fisheries
Biologist
Photo courtesy
of NJDEP**

American shad are an important fish ecologically; they are the source of food for many species, such as bluefish and striped bass. Shad were once known as “the poor man’s salmon,” and their roe (or eggs) were considered a delicacy. When they appeared by the thousands in our rivers each spring, fishermen caught them by the ton. Sadly, populations have been drastically reduced due to pollution, historic overfishing and the construction of dams. Removing dams like Hughesville is an important step to restore the health of our rivers and reverse the decline.

Through a grant from the U.S. Fish and Wildlife Service, MWA is partnering with Princeton Hydro to monitor the river for the next five years. We are hoping to see an increasing population of migratory fish, like American shad, in the Musconetcong!

Water Quality Monitoring

& 10 years of Assessing the Health of the Musky!



In 2007, MWA created our Water Quality Program and trained “River Watcher” citizen scientist volunteers to collect physical, biological, chemical, and habitat information on sections of our river that were threatened by development. Over the next 10 years, MWA trained over 300 River Watchers, and expanded from four to six sampling sites along the River’s 42 mile stretch. This body of baseline data has been critical to a regional understanding of river ecology, the effects of restoration and land use which has helped to prioritize restoration activities.

Highlights:

- ◆ River Watcher biological data collected before and after the Finesville Dam removal showed that mobile aquatic organisms—like mayflies and stoneflies—rapidly occupied new habitat created upstream of the old dam—not in ten years, as many estimated, but in mere weeks or months.
- ◆ River Watcher mussel surveys showed that these long-lived creatures may be harmed by stream bed restorations. This determination was important in supporting new NJDEP permit policies regarding stream restorations in areas with mussel populations.
- ◆ River Watcher data showed that water temperatures in the river between Lake Hopatcong and Lake Musconetcong were higher when flows were reduced during summer. A subsequent study using continuous monitoring sensors showed that, during hot summers, low flows downstream of Lake Musconetcong may affect water temperatures in the river. MWA used this information to support policy changes regarding lake water level management in our headwaters at Lake Hopatcong; this continues to generate more interest and new studies.



- ◆ River Watcher samples taken over the past several years in Netcong, Hackettstown and Franklin Townships, helped MWA better understand the impact of road salt. The data showed that sodium and other ions are at higher levels than previously thought. Road salt may be affecting the river year round. MWA is encouraging municipalities to reduce road salt on all roads.
- ◆ River Watcher data has also shown that flow upstream of hand built dams increases sediment and raises water temperatures. Instead of helping the fish by increasing water depth, these dams allow sediment to build up, turn healthy rocky bottom streams into inhospitable wasteland, and make the local neighborhoods more prone to flooding. MWA hopes that municipalities will partner with organizations like Trout Unlimited to remove these small dams and restore a clean river ecology that is healthier and safer for local families.



The Asbury Mill

Celebrating 150 years!



The Mill is Getting Greener

Our partner North Jersey Resource Conservation & Development Council (NJRC&D) was awarded a grant from the NJDEP Bureau of Environmental Analysis, Restoration and Standards from federal clean water act funds to implement green infrastructure projects to manage Stormwater runoff issues in the Musconetcong River Watershed. NJRC&D chose to contribute to the Asbury Mill restoration by installing two rain gardens around the Mill as well as two forms of pervious pavers. These installations will capture and infiltrate approximately 100,000 gallons of rainwater per year before it can enter the Musky!

This was also a productive year for repairs being made on the Mill structure. Contractors completed repointing and waterproofing the foundation, and plumbing and electrical contractors installed sleeves running through the foundation wall in order to receive underground water, electrical and internet connections.

A Congressional Visit

As work on the Asbury Mill proceeds, we have been conducting private tours of the building to build support for the project. This past August, Trustee Emeritus Chuck Gullage, Trustee Bill Leavens, General Contractor Paul Grefe, and Executive Director Alan Hunt walked Congressman Leonard Lance through the building, showing the progress and discussing future restoration goals.

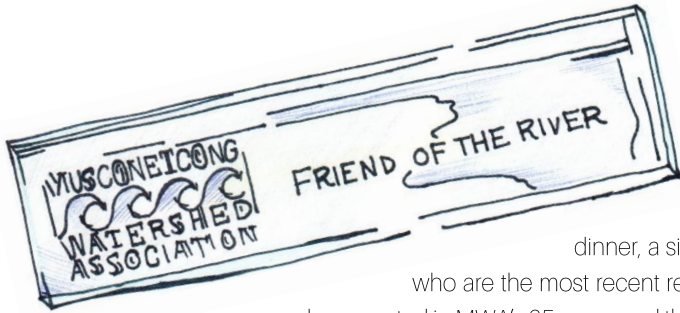
Alan and Bill had extended an invitation to the Congressman to visit earlier last year when they represented MWA and advocated the Wild and Scenic program funding with him. MWA relies on Congressional appropriations to the National Park Service to support the Partnership Wild and Scenic Rivers program. Congressman Lance was a sponsor of legislation that approved the nomination of the Musconetcong as a Partnership River in the program.

The Congressman is a history buff and was familiar with the Mill. He knows our contractor, Paul Grefe, and spoke highly of the restoration. There was a longer conversation about how the Mill can become the focus of a larger Heritage Area to recognize the national significance of Asbury as one of the early centers of Colonial manufacturing and commerce.



25th Anniversary Dinner

Honors MWA's Friends of the River



MWA Board and Staff commemorated reaching the silver anniversary milestone by holding a celebration at Hawk Pointe Golf Club. This celebration included dinner, a silent auction, and a local band. Invited were friends, members and honored guests who are the most recent recipients of MWA's "Friend of the River" award. There have been only seven such awards presented in MWA's 25 years, and they are given to those who have made a significant and sustainable difference in the Musconetcong River Watershed, and who advance MWA's mission of watershed protection and education.

The 2017 recipients of the "Friend of the River" award demonstrated outstanding leadership through their volunteer efforts or partnerships with MWA. Recipients honored included Richard Cotton, a local business "enviropreneur" and long-time MWA Board Member; Geoff Goll, President of long-time engineering partner, Princeton Hydro; and Paul Kenney, National Park Service River Manager for New Jersey Wild and Scenic Rivers, which includes the Musconetcong River.

MWA has been able to accomplish so much in its first 25 years as an Association, but recognizes that it takes a lot of local support in order to be able to fulfill our mission of watershed protection and education. Everything from river restoration projects to building and land acquisitions to citizen scientist and volunteer programs would not possible without the support of a very dedicated, close-knit, local community.



Geoff Goll
& Presenter
Beth Styler Barry



Paul Kenney
& Presenter
Alan Hunt



Richard Cotton
& Presenter
Cinnie MacGonagle

Involving our community

Education, Outreach and Events



MWA Youth Programs

Our education program promotes a sense of stewardship for the environment that is rooted in knowledge of science, local ecology and history. In 2017, our watershed education program was taught to 28 classes in six local schools, educating over 480 students on the importance of protecting our natural resources.

In 2017, MWA also expanded our STEM camp to a full week! Camp Musky campers raised monarch butterflies, built underwater robots, made solar ovens, learned how to use a compass, and so much more! Over 40 campers attended our most recent summer program.

Musconetcong Valley Farm Tour

MWA held our first ever farm tour of the Musconetcong River Valley this past year. This was a family-friendly event that taught attendees about the importance of sustainable farming and where to find environmentally conscious farms within our watershed. Donaldson Farms in Hackettstown, Cotton Cattle in Asbury, and Villa Milagro in Phillipsburg were gracious hosts. Everyone who attended learned a lot, bought local, and supported our continued mission of watershed protection and education.



25th Annual River Clean-Up

MWA has been running our River Clean-Up as long as we've been an organization. This milestone year Clean-Up was also a record-breaking day for MWA volunteerism. Over 100 more volunteers than last year's record-breaking event were out this past spring with 427 volunteers in attendance. This also marked the 25th year MWA has held our annual River Clean-up. Over 300 bags of trash and recyclables were cleaned up as well as 59 tires and other larger trash items like rugs, a mattress, and even an old canoe! This is our most popular event, and we look to continually grow it. Thank you to those who volunteer their time with us each year for some spring cleaning!



Working together, achieving goals

MWA and long-time partners, NJRC&D

North Jersey RC&D

North Jersey Resource Conservation and Development Council (NJRC&D) has an affiliation agreement with MWA to accomplish shared goals for the watershed. Both are separate 501(c)(3) non-profits working together toward resource conservation and community needs. NJRC&D and MWA are currently working on multiple, collaborative initiatives through grant funding.

NJRC&D employs full and part-time staff, as well as, staff that works in partnership with USDA Natural Resources Conservation Service (NRCS). NJRC&D staff is known for getting conservation on the ground.



NJRC&D from left to right: Christian Bench, Laura Tessieri, Kyle Richter, Bridgett Hilshey. Bottom: Kara Hasko and Brenda Berardo.



Dedicated to Community Needs Through Conservation

During 2017, NJRC&D continued to focus on projects that reinforce shared goals of protecting and enhancing the region's human and natural resources.

NJRC&D has provided valuable technical planning, educational and financial assistance to communities and farmers in the region. It was a very successful year for implementing multiple agricultural best management practices that address the protection and improvement of water quality, reduction of soil erosion, and improvement of soil health.

Cover Crops—Aerial Seeding

NJRC&D successfully carried out the fourth year of the areal cover crop seeding program in coordination with the NRCS Soil Health Initiative. A total of 1,300 acres of land within the Musconetcong Watershed was applied during the Fall of 2017.

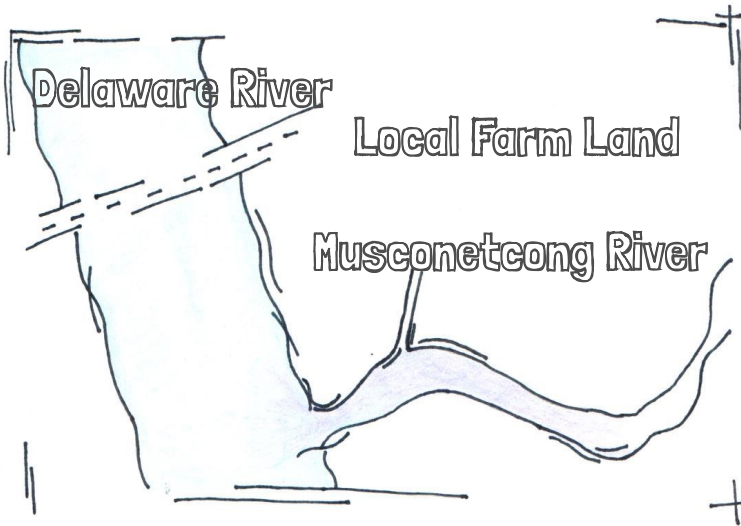
A species mixture of cereal rye, perennial ryegrass, crimson clover, tillage radish and red clover was used to provide field coverage during winter months. Staff monitored the Musconetcong Region carefully and were incredibly pleased with this year's growth and benefits that the cover crops provided.

Cover crops help reduce erosion, and increase infiltration and organic content resulting in healthier soil and a cleaner river.



Joining a region-wide initiative

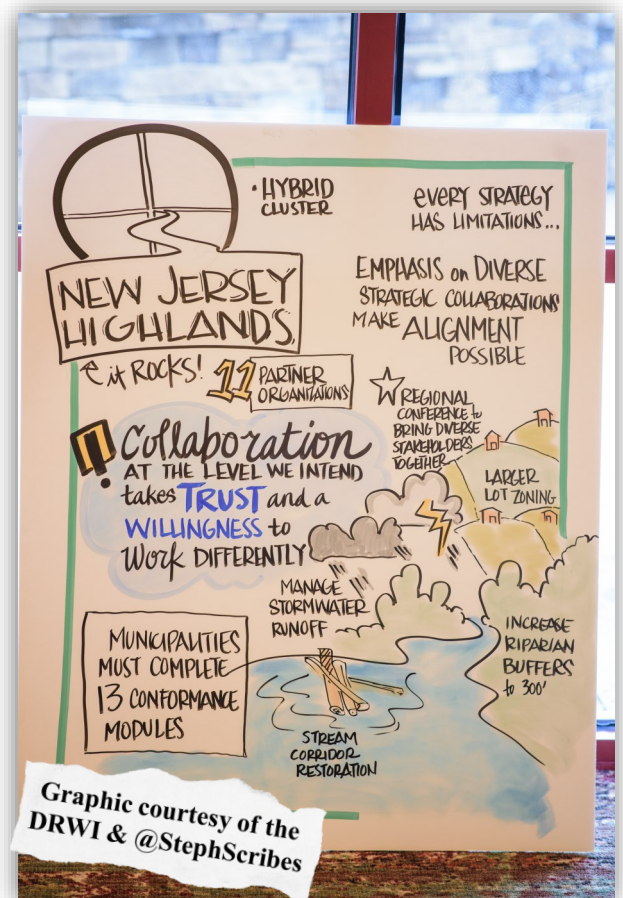
Building on 4 years of collaboration and partnerships for the next phase



The Delaware River Watershed Initiative (DRWI) is all about partnerships and collaboration to improve drinking water quality for over 15 million people in the Delaware River Watershed. In 2013, MWA was invited by the William Penn Foundation to join the DRWI, which increased MWA's staff and program capacity. We also gained new partners and increased our work with long-time partners including NJRC&D, NJ Audubon, Trout Unlimited, New Jersey Highlands Coalition, Association of New Jersey Environmental Commissions, The Nature Conservancy, Walkkill River Watershed Management Group, The Land Conservancy of New Jersey, New Jersey Conservation Foundation, and Hunterdon Land Trust. Also through Foundation support, MWA serves on the steering committee for the Coalition for the Delaware River Watershed, which focuses on the state and national level policies to protect and improve the region's water quality.

In 2017, we wrapped up several multi-year projects. Here are some of the MWA DRWI highlights:

- ◆ MWA expanded our Water Quality Program to include professionally managing monitoring at 12 sites to track bacteria, sediment (Total Suspended Solids), and Phosphorous.
- ◆ DNA was used to identify bacteria sources in the River in partnership with Montclair State University. This included analyzing the results of our 2015 data as well as collecting additional samples in 2017.
- ◆ Through 2015 bacteria data, we learned that while livestock are an important contributor to bacteria, wildlife—specifically deer and geese—seemed to be the largest contributors of bacteria in the River and its tributaries.
- ◆ Agricultural restoration projects on West Portal Creek, conducted by partners NJ Audubon, NJRC&D, Trout Unlimited, and MWA, resulted in a significant decrease in bacteria in the Creek.
- ◆ We cultivated new allies for our top federal policy priority, the Partnership Wild and Scenic River program, through the Coalition for the Delaware River Watershed.
- ◆ We coordinated planning for the next phase of work in the Musconetcong during 2018 and 2020, which includes: municipal outreach on stormwater policies in Hackettstown, Mansfield Township, Washington Township (Morris County), and Mount Olive Township; increasing communication for ongoing initiatives and project outcomes; expanding agricultural restoration efforts including large-scale cover cropping; and continued bacterial and water quality monitoring.



Putting money into action

Financials, Volunteer Hours and Fundraisers

The Musconetcong Watershed Association is a registered 501(c)(3) non-profit organization. We rely on grants, fundraisers, memberships, and donations from environmentally conscious individuals who support local water quality... People like you! Below are our financial highlights from 2017. Financial reports are available upon request by contacting Brenda Berardo, MWA Finance Manager.

Sources of Funds

Government Grants	\$690,219
Non-Government Grants	\$190,429
Events	\$33,571
NJRC&D	\$30,734
Programs	\$22,254
Contributions	\$18,792
Memberships	\$14,275
Facilities Rental	\$3,200
Interest	\$996

How they were Spent

Dam Removal	\$374,130
Program Management	\$194,982
Management & General Operations	\$133,624
Water Quality Monitoring	\$106,491
Education	\$34,116
Watershed Management	\$28,090
Fundraising	\$26,967

Fundraisers & Events

Our most recent **Wine Tasting on the Musky** was our best attended event yet with almost 100 in attendance! Attendees were able to sample wines and beers provided by sponsor, Perryville Wine & Spirits and participate in a tricky tray and rubber duck race for 50/50. Overall, 2017's event saw a 51% increase in fundraising totals and was a major success for our organization!

MWA's **Run for the River** shined on a cloudy day and saw a slight increase in sponsorships.

The **Native Plant Sale** was expanded to a 2-day event. Patrons were impressed with the variety, and we saw a slight increase in total revenue.

Proceeds from fundraisers go toward our education and outreach programs.

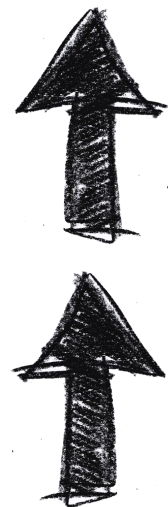


Volunteer Hours for 2017 = 5,082

A 6.89% increase over 2016)

121 active volunteers

A 70% increase over 2016



Artwork provided by Kelsey Saccente, local artist
Cover Photo provided by MWA Executive Director Alan Hunt



Our Mission:

The Musconetcong Watershed Association (MWA) is an independent, non-profit organization dedicated to protecting and improving the quality of the Musconetcong River and its Watershed, including its natural and cultural resources.

www.musconetcong.org