



BRASSnews

Newsletter of the Boquet River Association, Inc. Summer 2016, Volume 31 Issue 1

Microplastic Pollution in Lake Champlain

By Alta Jo Longware, BRASS Board Member

As the use of plastics in consumer products increases, the negative impacts both locally and globally also increase. World plastic production has increased from 1.7 metric tons (1 metric ton = 2205 lbs) in 1950 to 288 mtonnes in 2012. Plastics of several different types are used to make fleece jackets, toys, beverage bottles, and packaging as well as thousands of other consumer products.

Where does it all go? Tons of plastic are recycled into new plastic products. However, more are buried in landfills and even more are trapped in the ocean as garbage patches. According to the Smithsonian Institute, a 2014 study estimated that 8 million metric tons of plastic trash enter the sea from land every year. In 1992, a tanker with 28,000 rubber toys capsized enroute to the USA. Most are likely part of one of the many enormous garbage patches floating in our oceans.

What kind of problem exists locally? Research is being done by Danielle Garneau PH.D, Associate Professor in Earth & Environmental Science at SUNY Plattsburgh. Dr. Garneau gave an informative presentation on microplastic pollution at the BRASS annual meeting, which was held at the Hand House on May 2, 2016. Dr. Garneau presented findings that identify the types of plastic pollution, possible sources, and the impact that it has on the ecosystems in and surrounding Lake Champlain.

Dr. Garneau heads a team of researchers who have collected water and wildlife samples from Lake Champlain and area waste water treatment facilities. Highlights of Dr, Garneau's presentation include the following topics:

What are microplastics? They are plastic pieces that are less than 5mm in size. Some are manufactured to be small, such as microbeads, which are found in many consumer products. Others break down (biodegrade) from larger plastic products and packaging. Microplastics are defined by type (fragments, pellet/bead, fiber, film, foam; polymer type (polyethylene, polypropylene, polystyrene); color and density.

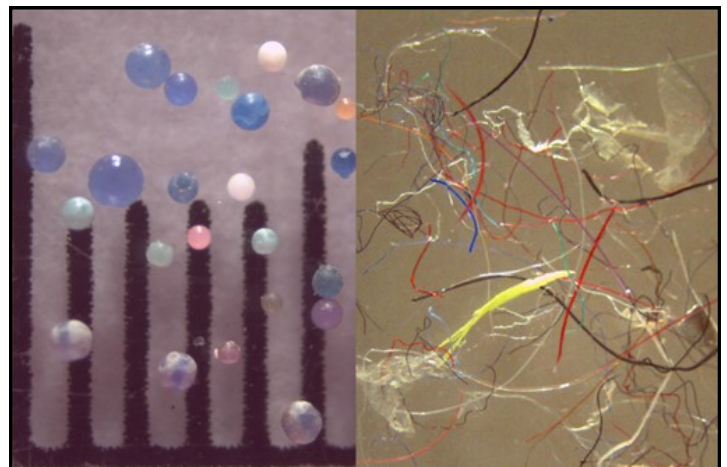
How do microplastics get into the water? They sneak into our waste water from the health and beauty products we use and through washing machines. Many toothpastes and facial scrubs contain micobeads, which are being replaced by natural exfoliants such as cocoa shells. Also, washing one fleece jacket can release as many as 1900 plastic fibers into the waste water stream. Plastics are not

Continued on page 7



Dragon Fly In Camo

Photo courtesy AJ Longware, July 2016



Microbeads and Microfibers

Photo courtesy Sherri Mason, Fredonia University

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BRASS Board Meetings are held on the first Monday of the month at 7:00 pm. Members are invited to attend. Call to confirm date, time and location monthly.

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Our Mission

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

The newsletter is prepared by AJ Longware with written contributions from the Board and others. All pictures were taken by BRASS unless otherwise noted.

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“The River Connects Us”
BRASS T-shirts and hats are available.

See page 4

Boquet River Watershed Management Plan Progress

By Ann Ruzow Holland, Ph.D., AICP, WBE, Consultant.

Why should we care about Water Quality in the Boquet River Watershed?

What happens to and within the Boquet River watershed affects the people, economy, and environment of our towns, Essex County, the Lake Champlain Basin, and the Adirondack Park. It is in everyone’s best interest to improve water quality, and for the river to be fishable, swimmable, and drinkable (with treatment).

The devastating effects of recent high water events, including those of 2011, harshly reminded people of the damage floodwaters can cause. Yet the river is not a monster to be tamed, if such is even possible, it is also a source of joy and inspiration. For these reasons and more, the Boquet River watershed plays a central role in the economic and cultural vitality of our communities.

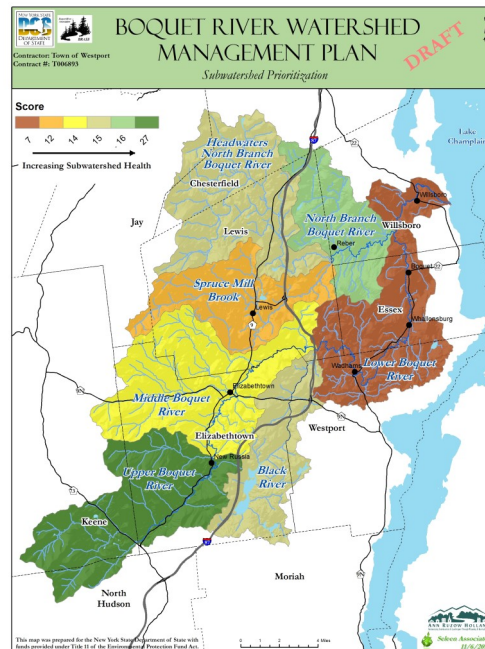
Watershed management planning is one way Boquet River citizens can work together to help protect habitat, as well as the roads, bridges, businesses, and homes in our communities. By working together to write a plan that reflects our needs, we can achieve the goals of sustainable economic development, community enhancement, government efficiency, improving recreational opportunities, and restoring the environment.

What has occurred so far?

Over the last several years, the Boquet River Association (BRASS) conducted an extensive inventory and analysis of the entire Boquet River watershed, including information about the river’s health and water quality. We looked at water quality conditions with the goals of having a swimmable, drinkable, and fishable Boquet River. Using \$60,000 of NYS Dept. of State, Local Waterfront Revitalization Program (LWRP) funds, BRASS has prepared a preliminary report accompanied by GIS Maps and many detailed appendices, which compares existing conditions in the watershed to the ideal conditions established by New York State.

The report has three major sections:

1. *Watershed Natural Resource Characterization.*
2. *Subwatershed Prioritization based upon a Vulnerability Assessment.*
3. *Analysis of local, regional, state, and federal land and water land use/management controls and best management practices.*



Continued on page 6

Willsboro Dam Removal Project

By Bob McGoldrich, From A Fisherman's Perspective

There has been much activity at the southern end of the Boquet River in Willsboro this past summer and fall. Bank restoration of the north bank had begun at about the same time as the removal of the Willsboro dam this past August. The restored area extends from about the tail of the main pool below the old dam site to beyond the first island below the main pool, a length of several hundred yards. The previous restoration of the south bank had been done by Georgia Pacific, with workers coming from as far away as Virginia; the current effort had been undertaken by Sheehan and sons, a local excavation company. They also had contracted with the town of Willsboro to take down the dam.

Whereas the dam removal was swift and immediately noticeable the bank restoration had gone through a number of stages. First a coffer dam had been built to allow for holding back the flow on the north channel of the first island below the main pool. The bank was bolstered with four engineered log jams designed to create a buffer for the banks as well as creating improved fish habitat.

The engineered log jams, the first in New York State, jutted out from the bank 8 to 12 feet and consisted of criss-crossed tree trunks anywhere from 2 to 3 feet in diameter. A number of willow shoots and other tree seedlings were planted into the bank which was covered with a protective mesh. A log stairway for fishermen was built below the southernmost retaining wall of the old pulp mill and at least one other is scheduled to be put in in the following year. There also will be fishing access for handicapped individuals.

The landowner -John Lease III provided a fishing easement along his property to allow public fishing access. Other site improvements are on hold pending additional funds which could come from a brownfields grant to help restore the eroded river bank to improve accessibility.

One of the major benefits of the dam removal will be the increase in numbers of salmon coming upstream to spawn.

Fred Dunlap, DEC, Lake Champlain coordinator, commenting on the dam removal and its impact on the watershed, states "we're very pleased about the results so far. The impact has been minimal. We knew it would change the landscape to some degree, but it hasn't been that severe, particularly where the river used to come up where the old dam used to be". He added that not only did it seem that the dam, which had been deteriorating for a number of years, was taken down just in time but it also would reduce the chances of major flooding especially in the late winter



New Fishermen Stairway
Photo courtesy Jeff Clock, August 2016

and early spring when ice jams historically had caused much damage in the town of Willsboro.

Mr. Dunlap says that one of the major benefits of the dam removal will be the increase in numbers of salmon coming upstream to spawn. This adds many more miles of open water for the salmon to migrate to appropriate spawning areas both on the main branch and the North branch of the Boquet. He indicated that the ability of the salmon to get up the current grade below the old dam depends on the water flow and the timing of the salmon run in the fall. "This past fall was not ideal because we never got enough rain to allow for a sufficient water flow." He said it might be two or three years before there is enough evidence to gauge the success of the salmon's migration above the old dam. Mr. Dunlap added the salmon might need some help to get up the cascade section of the river below the old dam site, noting it was very taxing physiologically. "We might have to cut out some sections of bedrock to allow for a resting place for the salmon".

Lance Durfey, DEC regional fisheries manager, further elaborated on manmade interventions that might include making artificial channels in places where the water would not be deep enough for the fish to traverse. He said that the current cascades created a sheet flow where the river was very broad and flat; unless there could be deep enough pockets of water for the fish to traverse they would not be able to get upstream. He stated that this year there had been only a couple of salmon that were known to have made it up to flats above the old dam site. He added that boards

(continued on page 5)

Ongoing BRASS Acts and Events

River Clean Up Day and Trashy Art Event – BRASS volunteers remove garbage from the along the Boquet River and ponds, and promote keeping it clean with the Art from Trash event as a reminder to keep our rivers and roadways free from litter. Please email Kathy Linker at sneezebeez@yahoo.com if you are interested in helping clean up our river.

Tree Planting – Each year BRASS volunteers team up with the Essex County Soil and Water Conservation Service to plant trees. Last spring BRASS assisted the Town of Willsboro planting forage and trees after the North Bank Stabilization projects were implemented.

Newsletters – BRASS produces two newsletters a year. You can sign up to receive the on-line newsletter, which will allow quick access to links for more information and save BRASS postage costs. If you'd like to write a short story about your river excursion for the next BRASSnews, please email AJ Longware at adklady1@westelcom.com

BRASS Rambles – Each season BRASS Board members and volunteers host guided tours of the river and its drainage areas. We climb mountains, hike, bike, bird, canoe or kayak, and have a great time while learning about our landscape and wildlife. This summer, Bob McGoldrick and Schelling McKinley hosted guided kayak and canoe trips along the Boquet. Contact Kathy Linker at sneezebeez@yahoo.com to receive event notices.

The Great Adirondack Trail Run – The Mountaineer hosts an annual trail run in June, which begins at the foot of Baxter Mountain and ends in Keene Valley. The ASRA (AuSable River Association) and BRASS provide the food for runners and spectators as a fundraising event. BRASS is grateful to the Mountaineer for their ongoing support. Visit www.Mountaineer.com for information or to register for next year's run which will be held on June 11, 2017.

Water Testing – Volunteers will continue annual water sampling at 14 sites from the headwaters of the Boquet to the WWTP in Willsboro. Data will be compared historical data to watch for trends and identify any emerging issues. Information on current and past water testing can be found at www.boquetriver.org under Projects/Monitoring.



BRASS Hats and T-shirts are available for \$15 each or \$25 for both when purchased together.

Contact adklady1@westelcom.com

We ship USPS for only \$5.



Annual BRASS Cookie Fun Run/Walk Save the Date October 16, 2016

BRASS hosts a four mile race in Wadhams along the scenic Boquet River, starting at the Dogwood Bakery to the Peirce Farm and back. Every participant gets a large fresh baked cookie. Fresh baked pies are awarded to best time runners in several age groups and the overall winner receives a "The River Connects Us" T-shirt.

BRASS thanks the Dogwood Bakery for continuing to provide the delicious warm homemade cookies to the runners, walkers and workers at the finish line.

Willsboro Dam Removal (Continued from Page 3)

might need to be staked into the bedrock to create deep enough channels for the fish to go through.

Fishermen interviewed (some from as far away as Idaho had come to fish the river and others were just a couple minutes drive from the main pool) at and around the river this fall indicated that the dam removal and its aftermath had not seemed to have affected the fishing quality. In fact the majority of reports showed that the fishing had been good. One fisherman from Quebec, Nathan Tremblay, had an outstanding day of fishing, catching 13 salmon up to eight pounds. I noticed he had kept two, one a 26 incher with a small lamprey wound on its underside. (All had been caught a couple of hundred yards below the main pool on salmon egg imitation flies). He said this was the first time that he had been fishing the Boquet this season; he tries to get down to the Boquet several times during the fall run; and had planned to return the following weekend with a friend.

Bob McShane of Willsboro, another fisherman who had a good season, caught a couple of salmon over thirty inches and landed over thirty salmon in all, cited a current concern related to the dam removal. This involved the excessive amount of silt at the tail of the main pool. The silt was up to foot to a foot and a half, covering many of the rocks in the pool. He maintains that this was in part due to the mud and silt building up against the coffer dam that had been installed during the bank restoration on the north bank of the river(it had since been removed at the completion of the project.) Nonetheless he believes that the silt will wash out during the spring flooding. He also felt it might be a couple of years before the effects of the dam removal would be known on how it might have affect the river and the salmon fishing.

Other residents who were not fishermen, had their opinions as well. Mr. Arnie Stoker, a long time Willsboro resident, who lives less than 50 yards from the old dam site, stated that he didn't like the idea of the dam removal at first but when it was taken down it didn't seem to have affected the level of the river as much as some thought it might. He also noted that the river wasn't as loud as he thought it would be after the dam was removed. Nonetheless he felt strongly that local input was not given enough consideration and a new dam should have been put in to replace the old one.

Two brothers, Ron and Bob Shambo, who had lived in Willsboro many years ago had returned to visit the site of the old dam as well as to look at the recently restored north bank. They were both especially pleased with the results of the bank restoration. Bob pointed to the not yet restored upper section of the north bank where the old paper mill used to be and recalled that the mill was a major employer of the town 70 years ago. At that time both their father and uncle worked there. One of the perks of the job was that employees could catch fish to supplement their income on



New Benches and Railing provide a beautiful viewing area located over the old fish ladder.
Photo courtesy Jeff Clock, August 2016

their lunch hour. He pointed to a spot where there used to be a utility room that covered an expanse of water that ran down the rocky ledge and in it were conveniently placed spears where employees and enterprising youngsters such as he and his brother would spear bass resting in the eddies. He acknowledged that this would probably not meet current sport fishing or labor regulations, but then again it was a different era.

Gary Chilson of Elizabethtown noted that there had not been as much silt as he had thought and wondered if a lot of it had already seeped through the old dam which already had numerous leaks. He surmised that the dam removal would allow for far reaching migration of salmon up the main stem and the north branch of the Boquet; he felt if the culverts in the Boquet and adjoining streams were added or improved in upcoming years the extent of the migration could go even further.

On the whole, those who were interviewed, allowed that the dam removal and the bank restoration has been a success. It remains to be seen what the long term effects of the dam removal will be and how the bank will hold up.



Ice Jam Near Willsboro Boat Launch
Photo courtesy Vic Putman, February 2016

Boquet River Fish Fest 2016

By Alta Jo Longware, BRASS Board Member

The Annual BRASS Fish Fest was held at on June 28, 2016 in conjunction with the NYS Free Fishing Weekend to promote awareness and appreciation for recreation on and enjoyment of the Boquet River Watershed. Participants both young and young at heart had the opportunity to experience a variety of fun and educational activities.

A hands-on soil erosion display hosted by the Essex County Soil and Water Conservation Service, illustrated how the river shifts dramatically with changing water volume and velocity. They also provided the materials for several different educational and fun make n' take water crafts.

The 4H provided the guidance and materials to make [Gyotaku](#) style printed T-shirts. However, rather than using real fish for printing, the junior fashion designers used molded silicone shapes of various fish for impressions.

BRASS Board members offered other hands-on activities including rock bug painting, fly and spinner casting, and investigating Boquet River life. The kids loved holding the soft and squiggly pollywogs and identifying the different macroinvertebrates.

BRASS thanks the E'town Fish and Game Club for providing the perfect location on the river for the Fish Fest.



Photos courtesy Kathy Linker & Anita Deming

WATERSHED MANAGEMENT PLAN (Continued from page 2)

BRASS can help support and implement identified needs including:

- Riparian Zone Management
- Erosion Control (greenbelts, vegetation on slopes)
- Habitat Protection and Management (greenbelts and invasive species)
- Recreation
- Intergovernmental Coordination
- Municipal Training
- Flooding remediation (buildings located away from flood zones)
- Local Laws and Practices (compared to NYS BMPs)
- Point and Nonpoint Source Pollution Management and Control (nutrients, toxins, bacteria)
- Sewer and septic upgrades (affordability, technology)
- Septic System Testing, Monitoring and Assessment
- Funding to implement the identified needs,
- Education for interested program participants

BRASS is eager to share these resources. Access to the preliminary report and many other Boquet River informational documents can be found at this website: <http://boquetriver.org/homeindex/>



"This project was funded by an agreement awarded by the Environmental Protection Agency to the New England Interstate Water Pollution Control Commission in partnership with the Lake Champlain Basin Program. NEIWPCC manages LCBP's personnel, contract, grant, and budget tasks and provides input on the program's activities through a partnership with the LCBP Steering Committee." Publications must also state: "Although the information in this document has been funded wholly or in part by the United States Environmental Protection Agency under agreement LC96187501 to NEIWPCC, it has not undergone the Agency's publications review process and therefore, may not necessarily reflect the views of the Agency and no official endorsement should be inferred. The viewpoints expressed here do not necessarily represent those of NEIWPCC, the LCBP Steering Committee, or U.S. EPA, nor does mention of trade names, commercial products, or causes constitute endorsement or recommendation for use."

Microplastics (Continued from Page 1)

currently filtered prior to disbursement into the river or lake from local waste water treatment facilities.

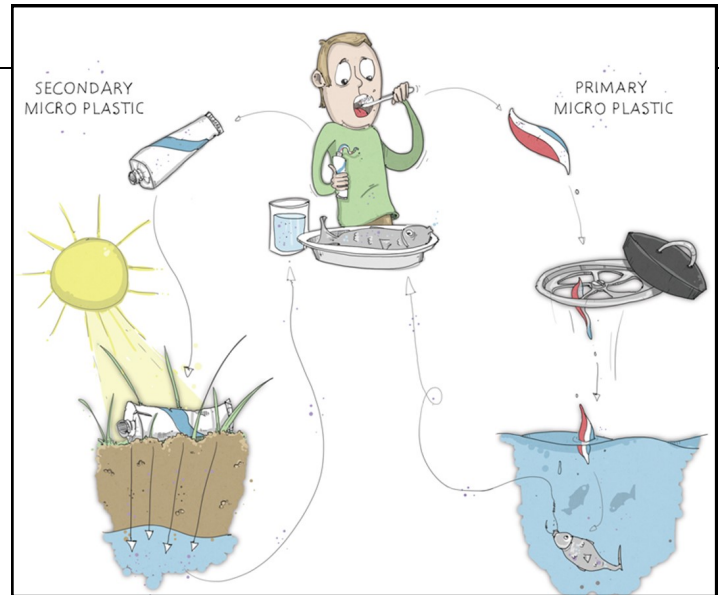
New York State recently passed legislation to ban the use of microbeads in consumer products including toothpaste and skin products, but that addresses less than 14% of the overall plastic problem. Fragments, pellets, fibers, film and foam ranging in size from .355 to .999 mm combined top the chart at 67% abundance, consisting of 75% fragments and 20% pellets, and 5% fiber, film and foam combined. For pieces >4.75 mm in size, fragments again took the top billing at 75% and pellets/beads at 14%.

Why are microplastics a concern? Plastic debris contains a “cocktail” of chemical contaminants including methyl mercury, BPA, and PCBs. The toxic chemicals and bacteria from the environment are absorbed and exchanged through the plastic and then ingested by organisms, including fish, muscles, oysters, and other aquatic species. The accumulation in the tissues of those organisms have biological effects, which then are passed up the food chain and to humans. Plastic fibers and fragments are also found in 15 brands of commercial sea salt.

What can we do to reduce the microplastic problem?

Dr. Garneau provided some simple strategies to consider.

1. Change what you buy (clothing, hygiene products.)
2. Bring your own reusable bags to grocery shop.
3. Ban the plastic bottle (San Francisco) and foam cup (NYC and DC.)
4. Retrofit washing machines with Filtrol 160.



5. Utilize durable, reusable products.
6. SAY NO TO STRAWS (over 500 million trashed daily in the US alone.)
7. Don't Take it To-Go (or at least not in plastic/foam.)
8. Help Change the Laws: Support Bag/Bottle Fees as well as Extended Corporate Responsibility.

Dr. Garneau's team will continue sampling, quantifying, and mapping microplastic pollution in the Lake Champlain watershed with funding from a Lake Champlain Sea Grant. For more information on the project please visit

<https://sites.google.com/site/daniellegarneau/>

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Complete and return this form to: Boquet River Association, P.O. Box 374, Elizabethtown, NY 12932

You can join BRASS, renew your membership and/or donate to BRASS online at www.boquetriver.org

In most instances, your membership and donation is fully tax-deductible as a charitable contribution.

Help Protect Our Watershed

More than 70 nonnative invasive species have crept into the Adirondacks. Terrestrial species of concern include common reed grass, giant hogweed, purple loosestrife, yellow iris, garlic mustard, buckthorns, wild parsnip, swallow-wort, and Japanese Knotweed.

Invasive species not only change the way an area looks but the way it functions ecologically. Infestations can disrupt water and nutrient absorption, crowd out native habitat and can create a toxic environment for wildlife and humans. Invasive species degrade natural habitat quality which can reduce the number and variety of fish and wildlife.

Visit www.adkinvasives.com for more information about how to identify, report, and manage invasive terrestrial and aquatic plants and animals. You can also report sightings to www.imapinvasives.org.



Bush honeysuckles are invasive shrubs that grow up to 20 feet tall. There are three species common in the region. All are similar in appearance, with simple, opposite, oval-shaped leaves. Plants bloom in May and June, producing fragrant white or pink flowers. Berries are round, fleshy and red. The center of twigs on invasive bush honeysuckles are hollow, a trait that distinguishes the invasive species from their native look-a-likes. Dense thickets crowd and shade out native vegetation. Severe infestations can create an environment more favorable to ticks.



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What's Inside This Issue:

Microplastic Pollution In Lake Champlain

Watershed Management Plan Progress Report

Willsboro Dam Removal Project

BRASS Events

BRASS Fish Fest 2016

Featured Invasive

