

Regular Coalition Meetings

2018

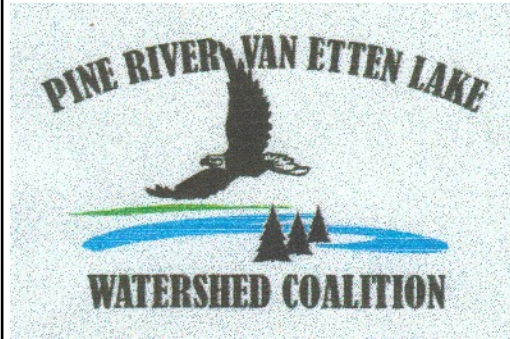
October 11

2019

January 10

At 10:00 AM

Harrisville Library



Working Together to
Restore and Protect
Our Natural
Resources

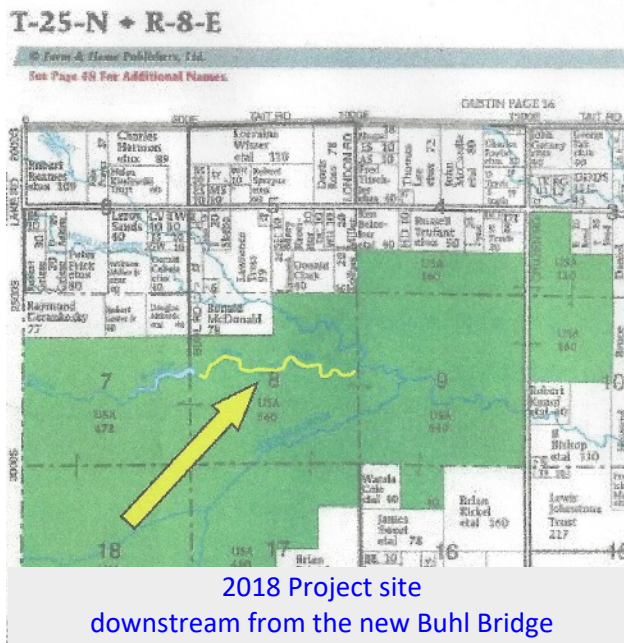
2018 EROSION REDUCTION PROJECT ON THE SOUTH BRANCH

In line with the ongoing efforts to address the large number of moderate to severe soil erosion sites within the watershed, a portion of the monies which funded the removal of Buhl dam (off Buhl Rd west of Mikado) are being used this year for a bank stabilization project immediately downstream from the site.

Three locations, PR18A, PR18B and PR18C, along the South Branch of the Pine River have been identified for restoration through a re-vegetation process whereby trees/shrubbery are placed along the eroding banks and anchored in place. This process is intended to result in the collection of sediment in the branches of the trees and

to help to reduce the amount of sediment entering the river. It also provides improved fish and wildlife habitat.

Volunteers will be helping crews from PRVEL partners, Huron Pines RC&D (HP) and US Forest Service to complete the work this month, hoping for good weather August 16-18. Cutting, falling, and staging trees will take place on the 15th by HP staff. This project will improve 450 feet of shoreline.



For further information or if interested in volunteering, please email

caroleplunkey@charter.net.

PR18C: Toe is stable in some locations and whole upper bank eroding.



STREAM TEMPERATURE MONITORING PROJECT UPDATE

By Scott Lingo

PREVL has been monitoring water temps throughout the Pine River Watershed for three seasons now. Monitoring begins June 1 and runs through August of each year. Currently we monitor nine sites and supplement the DNR's monitoring efforts within the watershed. Since the beginning of the program there has been little variation of the average sum-



*A temperature measuring and recording device
(a logger)*

mer time temps. One of our concerns was the effects of the Emerald Ash Borer devastating the stands of Ash along the Pine River and its tributaries. Water temperatures correlate with the species of fish that inhabit sections of the rivers and streams. By monitoring these differing areas we are able to determine the types of fish that will most likely be found there. Our efforts assist in determining the health of the Pine Rivers and their tributaries.



Typical temperature measuring locations in the watershed

PRVEL Participation in the "Water Ways" Program

Alcona County Library has been awarded the privilege of hosting a traveling exhibit entitled "Water Ways", highlighting the importance of water in our communities. PRVEL has been invited to participate in the planning of the event which will run from Friday, Nov 16 through Friday, Dec 28, 2018 and feature several different venues, all related to water.

Programs being considered include: Art contests, author talks, presentations ("Life of a Marsh", "Underwater robots", "Shipwrecks", "Great Lakes Fish-

ery"), films, slide-shows, and open-house style events where organizations (like PRVEL) can set up displays and provide handouts related to the protection of Michigan's water resources. Specific dates are still being worked out and as soon as PRVEL has that information, it will be emailed out to all members.

Watch for more information soon to come and/or contact Denise Bearre, Alcona County Library Director, for more details.

PRVEL CROWDHYDROLOGY PROJECT UPDATE

By Dan Steck

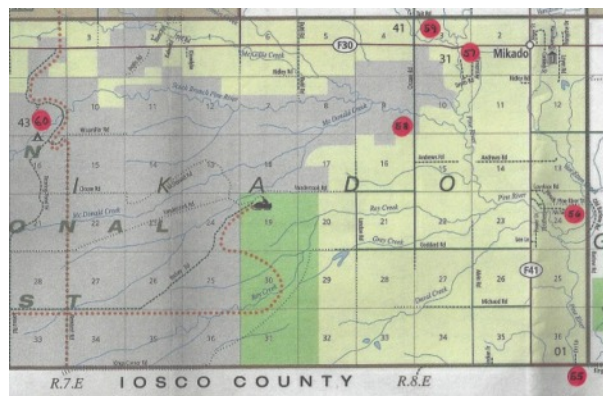
The CrowdHydrology mission is to create freely available data on stream stages in a simple and inexpensive way. This is done through the use of “crowd sourcing”, by which the data is gathered on stream stage (water levels) from anyone willing to send a text message of the water levels at their local stream to www.crowdhydrology.com. These data are then available for anyone to use.

A measuring point is created by mounting a measuring staff on a fence post in the stream or on a bridge structure, along with instructions explaining how committed volunteers or passersby can contribute to CrowdHydrology by texting the water level and stream location (identified by a station number) to researchers.

There's a simple, 5-step process to send the water level data to the CrowdHydrology database:

1. Read the stream stage off of the gage at any of the monitoring sites.
2. Text the station number and the stream stage to the phone number listed on the gage. A typical reading would text as - MI1055 11.55
3. The stream stage is then added to the CrowdHydrology database and is published for public use on the web page.
4. Researchers, students, outdoors people, resource managers, etc. can then use these data free of charge. We are using the readings to improve our estimate of the amounts of Phosphorus and Total Suspended Solids being carried in the Pine River system. This is done using a positive correlation between the flow and the P and TSS concentration (as the flow increases the concentrations of P and TSS also increases). Besides benefiting PRVEL in its stream monitoring efforts, the data also provide useful data to scientists and benefits sportsmen such as local fishermen. Participating in CrowdHydrology could also be a fun way for students to learn about local streams and how waterways respond to rain and dry spells.

5. Pat yourself on the back because you're now a citizen scientist.



The PRVEL monitoring sites are at six locations in the Pine River watershed as shown on the map and as follows:

Location	Gauge No.
1. Pine River at Kings Corner Road (upstream side on left bank)	(MI 1055)
2. Van Etten Creek at Barlow and Pine River Tr (downstream side on right bank)	(MI 1056)
3. East/West Branch of the Pine at F-30 (downstream side on right bank)	(MI 1057)
4. South Branch of the Pine at Cruzen Road (downstream side on left bank)	(MI 1058)
5. West Branch of the Pine at Cruzen Road (downstream side on right bank)	(MI 1059)
6. South Branch of the Pine at the Pine River Campground (upstream side at bridge entrance)	(MI 1060)

While out enjoying our beautiful watershed, you are encouraged to stop at any of the gauge sites and take a reading to send in. Because the gauges have been installed on larger streams, binoculars will be very helpful when readings are being taken. Do not climb down to the edge of the river to take a reading as the footing is sometimes treacherous. If there is not a good signal at the site, the reading can be taken along with the telephone number (616-951-3218), the gauge number and the level reading and then sent from a location with a good signal.

Relative Nitrogen and Phosphorus Runoff Values Based on Land Use

by Dan Stock, Water Quality Monitor

Phosphorus (P) and nitrogen (N) are essential elements for plant and animal growth, but too much of them can accelerate the natural aging of lakes and streams by accelerating **eutrophication**, the natural aging of lakes or streams brought on by nutrient enrichment. Although eutrophication is a natural process, it can be sped up by changes in the land use of a watershed that increase the amount of nutrients added to an aquatic system. Both P and N affect eutrophication, but P is the critical element in most fresh waters.

Erosion control is of prime importance in minimizing P loss from land. It may not, however, be sufficient in and of itself. The following conditions increase the potential for nitrogen and phosphorus to enter streams:

- high rainfall and snowmelt
- steeply sloping areas with insufficient vegetation to slow runoff and sediment, and
- clayey and compacted soils underlain by poorly drained sediment.

Surface runoff generally occurs only from limited, critical source areas within a watershed. These source areas vary rapidly over time, expanding and contracting quickly during a storm as a function of rainfall intensity and duration, soil moisture conditions, temperature, soils, topography, ground water, and moisture status.

Phosphorus is more likely to reach concentrations that can cause excessive aquatic plant growth than nitrogen. Nitrogen concentrations are rarely low enough to limit aquatic plant growth in freshwater, whereas phosphorus concentrations can be low enough to limit such growth. Hence, excessive aquatic plant growth and eutrophication in freshwater generally result from elevated phosphorus concentrations (typically greater than 0.1 milligram per liter, 100 micrograms per liter).

A source containing a high level of P with little opportunity for transport may not constitute an environmental threat. Likewise, a situation where a high potential for transport exists, but where there is no source of P, also is not a threat. The concern and emphasis of management practices should be focused on areas where the two conditions coincide.

Landowners can prevent runoff by using best practices that keep soil and other pollution out of streams and rivers.

- Plant native trees and shrubs, keep livestock away from water's edges, and leave grass or native buffers between tilled fields and streams.
- Leave stubble on tilled fields through the winter, cover manure piles, and plant a grass or native buffer between activities and streams.

Degrading forest roads and logging practices create forestry runoff. State rules and initiatives that govern forestry practices are designed to ensure that timber harvest and forest road activities don't pollute streams and rivers. It is important insure that these rules are being followed so that water quality is protected.

The Forest Practices Rules provide standards to:

- Preserve trees in stream side areas to keep the water cool.
- Improve in-stream fish habitat by providing woody debris and controlling pesticide use near water bodies.
- Encourage proper construction and care of forest roads to prevent silt from entering water.

Complicating the problem is the fact that eutrophication sometimes occurs many miles from where high-P agricultural runoff originally enters the water supply. By the time the water quality effects are noticeable (sometimes years to decades after the runoff occurs), remedial strategies are difficult and expensive to implement.

Land Use and Cover

What does this mean for the Pine River/Van Etten Lake Watershed? The following definitions describe the most prevalent land use classifications within the critical areas of the Pine River/Van Etten lake Watershed as identified in the Watershed Shed Management Plan of 2003. There has been little change in the use of land in the watershed since this determination was made. A critical area is that part of the watershed that is contributing a majority of the pollutants and is having the most significant impacts on the waterbody.

Upland Forest - Forest land areas are generally at least 10% covered by trees of any size. The upland forest

continued on page 5

P and N Runoff continued from page 4

category includes upland hardwoods like maple & beech, other upland species like aspen & birch, species of pine like red, white or jack pine, and other upland conifers like white spruce, blue spruce, eastern hemlock, and balsam fir. Upland forest in the Pine River/Van Etten Lake Watershed critical area comprises the majority of land use with a total of 42,117 acres (**42.0%**) of the land area.

Lowland Forest - Lowland forest areas are dominated by tree species that grow in very wet soils. Lowland hardwoods include ash, elm, soft maple, cottonwood and others. Lowland conifers include cedar, tamarack, black and white spruce, and balsam fir. The lowland forest in the Pine River/Van Etten Lake Watershed critical area covers 21,430 acres (**21.37%**) of the total land area.

Agricultural - The agricultural land use category generally includes land that is used for the production of food and fiber, as well as land used for non-food livestock such as horses. These classes are cropland, orchards (including vineyards and ornamental horticulture), confined feeding

operations for livestock of any kind, permanent pasture lands, farmsteads, greenhouse operations, and horse training areas. The total agricultural land in the Pine River/Van Etten Lake Watershed critical area is 12,437 acres (**12.40%**).

Nonforest - Nonforest land includes "open land" and rangeland classifications such as barren land, herbaceous open land, and shrubland. Herbaceous open land is usually subjected to continuous disturbance such as mowing, grazing, or burning, and typically it can have a variety of grasses, sedges, and clovers. Shrubland is land in transition from being open to becoming forested. It contains native shrubs and woody plants like blackberry, dogwood, willow, sumac, and tag alder. The nonforest land in the Pine River/Van Etten Lake Watershed critical area is 8,996 acres (**8.97%**) of the total land area.

Reported values for the runoff of Nitrogen (N) and Phosphorus (P) are given in the following table:

Land Use	N, lbs/acre/year		N, tons/yr Est. Average	P, lbs/acre/year		P, tons/yr Est. Average
	Range	Average		Range	Average	
Forest	1.43-5.79	2.23	71	0.009-0.78	0.2	6.35
Agriculture	2.23-37.0	10.6	66	0.09-2.90	0.86	5.34
Non-forest	1.78-27.44	3.96	18	0.045-4.37	0.86	2.65

The estimated average total tons/year contribution from these classifications are given only to provide an indication of the relative amount to be expected based on land use. These amounts can vary considerably from year to year as indicated previously.

RIVER KEEPERS CORNER

Thanks to all of you who have signed on as River Keepers. We count on your observations to help us better understand and monitor the watershed.

Here's a sample of a recent reporting from River Keeper Mary Weber: "We had a beaver in early spring take down a tree ... but we found no evidence on our portion (of the river) of where he built his dam. For the first time in two years a bear visited our bird feeders in the middle of the night and we've had lots of deer and turkey sightings ... The snappers are back in the pond and our pet ducks no longer feel comfortable swimming in them ... Herons have been showing up more around the pond. ... Alcona County residents are starting to mumble about cougar sightings again but no one seems to have a picture to back up the claims."

In addition to wildlife issues, PRVEL is also interested in evidence of pollution, soil erosion, fish sightings/catches, invasive plant species, or any other issue which may impact the health of the river.

BE A RIVER KEEPER AND HELP MONITOR THE WATERSHED

Contact Carole Plunkey - caroleplunkey@charter.net

Summer 2018 Newsletter

PRVEL Coalition Board

Chair - Carole Plunkey	caroleplunkey@charter.net
Treasurer - Dan Stock	dstock4239@charter.net
Susan Malski	smallard3@yahoo.com
Scott Lingo	scott@targetrealestate.com
Arnie Leriche	aleriche526@gmail.com
Russell Williams	jrusswill@gmail.com

Non-Voting Advisors

US Forest Service	Huron Pines RC&D
USDA-NRCS	DNR/Fisheries
US Fish & Wildlife	DEQ/Water Quality

Welcome to new board member Russell Williams (jrusswill@gmail.com). Russell has a background working in forestry so he will be a great asset! He also recently joined the VanEtten Lake Assoc board so he will have a voice in that organization as well.

Michigan Lake and Stream Associations Name Change

MLSA has changed its name from Michigan Lake and Stream Associations (ML&SA) to **Michigan Lake Stewardship Associations (MLSA)**.

It is interesting to note that although the original founders of the organization envisioned serving an active membership comprised of both lake and stream property owners associations, for reasons that are not yet well understood, the concept of stream property owners associations never really took hold in Michigan. A comprehensive review of ML&SA year-to-year membership revealed that the membership has always been comprised primarily of voluntary lakefront property owners associations.

Honoring the past, and recognizing the vital role Michigan's lake associations in preserving the health and vitality of our inland lake heritage for the future, the Board of Directors recently voted to change the name of the organization to Michigan Lake Stewardship Associations (MLSA).

Yes! I wish to support the water resource improvement efforts in the Pine River Van Etten Lake Watershed with my tax deductible contribution.

Please make your check payable to PRVEL Watershed Coalition and send to:

PRVEL Watershed Coalition
PO Box 680
Oscoda, MI 48750

Name _____

Street _____

City _____

State/Zip _____

Phone _____

E-mail _____