Our Next Coalition Meetings
will be on
October 14, 2021 and
January 13, 2022
10:00 AM at the
Harrisville Library

PINE RIVER VAN ETTEN LAKE
WATERSHED COALITION

Working Together to Restore and Protect Our Natural Resources

KURTZ ROAD CROSSING IMPROVEMENT

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Crossing Quadrupled to Improve Fish Passage

Our first river restoration project of 2021 replaced a severely undersized culvert on Kurtz Creek, a tributary of the South Branch Pine River. The culvert replacement occurred where Kurtz Creek intersects with Kimberlin Road east of Glennie in Alcona County. Until it was removed, the old culvert was perched above the river surface, causing issues with erosion and preventing fish and other river life from being able to move upstream.

The new structure, installed at the end of April, is 14 feet wide and 9 feet high, more than 4 times wider than the original culvert. The increased size allows Kurtz Creek to flow naturally through the crossing, virtually eliminating any risk of a future washout from sudden spring thaws or rainstorms. The improved design allows fish to reach 5.8 miles of quality cold-water habitat upstream from Kimberlin Road.

"Kurtz Creek flows through a lot of well-forested public land and is a top-tier stream with wild brook trout," said Senior Project Manager Josh Leisen. "The site has been a priority for the Alcona County Road Commission and for resource biologists for years and it's great to finally have the site restored."

"We got to replace a culvert with one that's going to last a long time into the future," added William Smith, project foreman with the Alcona County Road Commission. "These polymer-coated culverts will last 4 or 5 times longer than what was there. Water is flowing through it quite well and it should be easier for fish and wildlife to get through now."

A before photo of the original, 3-foot-diameter culvert.

The project cost approximately $100,000 including materials, construction, engineering and project management. It was funded with support from the US Forest Service and Walters Family Foundation, with in-kind contributions from the Alcona County Road Commission.

For a sense of scale, Watershed Planner Amy Nowakowski stands next to the new structure designed to replace the undersized culvert at Kurtz Creek.

After view of the upstream end.

Macro-invertebrate Sampling Update

by Deb Miller

From crayfish to scuds, beetle larvae to snails, the macroinvertebrate population of Van Etten Creek indicates that the water quality is good. On May 17, 2021, nine PRVEL volunteers participated in the semiannual stream sampling on Van Etten Creek at Barlow Road/Pine River Trail. Present were: Dan Stock, Deb Miller, Carole and Joe Plunkey, Russell Williams, Stephanie Carrico, Cyndi and Alan McGowen and Alleigh Pagels.

Prior to starting the specimen collection, Deb Miller reviewed the MiCorps recommendations to ensure an optimal and accurate sampling of macroinvertebrates (animals without internal skeletons). Donning waders and armed with nets, Al McGowen, Alleigh Pagels and Russ Williams entered the stream for the actual collection, while Dan Stock provided technical assistance from the stream bank along the 100-yard sampling area. Buckets of critter-laden stream water were shuttled to the sorting table where the remaining volunteers sifted through debris and placed specimens in collection bottles for later classification and counting by Deb Miller. Using the updated MiCorps Identification and Assessment sheet, 183 specimens were identified and placed into 11 separate categories. Using the data sheet's formula, a score of 5.46 was obtained, indicating a water quality of "good, some pollution possible."

PRVEL's macroinvertebrate sampling occurs in spring (usually May) and early autumn (usually September). It is a great opportunity for volunteers to get out into the Pine River watershed and be involved in an activity that monitors the health of our waters. It is also a chance to meet other volunteers and simply enjoy being out in nature. Be on the lookout for the fall sampling announcement; we'll look forward to seeing you.

Michigan Agriculture Environmental Assurance Program (MAEAP) Update

Submitted by Alleigh Pagels

The Michigan Agriculture Environmental Assurance Program (MAEAP) is an innovative, proactive program that helps farms of all sizes and all commodities to voluntarily prevent or minimize agricultural pollution risks. Water pollution comes from many sources, and some of it comes from farms. MAEAP is available to help and recognize farmers who reduce erosion and runoff from private land into public waters.

My name is Alleigh Pagels and I am the MAEAP technician for the counties of Alcona, Alpena, Montmorency and Presque Isle. My job is to help farmers in the area reduce erosion and runoff into our public waters. Having MAEAP recognition from the state provides your farm and enduring sense of pride that you are protecting our watershed. With this verification there are incentives that you receive such as cost share assistance (free water and soil tests), insurance discounts (up to 20% through Farm Bureau) and regulatory protections from the State of Michigan (GAAMPS).

What are GAAMPs? The Michigan Right to Farm Act, P.A. 93, was enacted in 1981 to provide farmers with nuisance protection. This state law authorizes the Michigan Commission of Agriculture and Rural Development to develop and adopt Generally Accepted Agricultural and Management Practices (GAAMPs) for farms and farm operations in Michigan.

The MAEAP program is 100% confidential and is very easy to complete. If you are interested feel free to email me at *Alleigh.pagels@macd.org*.

2020 Phosphorous and Suspended Solids Monitoring Update

Stage measurements continued to be taken on the Pine River at the county line and the Van Etten River (Lower Van Etten Creek) where it leaves the lake to determine the relative impact of upstream and lake shore nutrients and solids. Since 2017, measurements have been taken on the South and West Branches and the Pine River (E/W) at F-30. Measurement were also taken on Van Etten Creek at the corner of Barlow Road and Pine River Trail.

No P or TSS sampling was conducted in 2020, partly because of COVID19 and partly because of the problem finding a reliable laboratory to do the analyses. Stage levels were determined at the six locations throughout the sampling season.

The water level (stage) measurements taken were used to estimate the flow at the time of measurement. Measurements were collected during both high flow and low flow conditions from April through October in an attempt to characterize the quantity and quality of inflows in the system. Regression analyses were used to estimate the amount of P and TSS in the stream at each measurement time.

The estimated amount of phosphorus - P (16.1 lbs/day) entering the lake from the Pine River for the year was about 52 percent of the estimated ten year mean amount. The estimated amount of total suspended solids - TSS (5.07 tons/day) entering the lake was about 76 percent of the ten year mean. Both estimates are based on the regression method approach.

The P and TSS estimated amounts at the outlet from Van Etten Lake at the dam based on the regression analysis were 17.2 lbs/day and 0.90 tons per day respectively.

The flow measurements taken at F-30 from the combined West and East Branches resulted in the estimated flow being less than that estimated for the West Branch itself. The cause of this imbalance is currently unknown. Additional flow stage curve measurements will be made in 2021 to recalculate these flow curves. Those flow/stage measurements made in 2020 gave unsatisfactory readings possibly because of a low battery which had outlived its expected life. A replacement computer/battery has been received and measurements are planned for balance of the 2021 season.

The results of this analysis are summarized in Table 1 below.

Continued on page 4

Table 1
Pine River Tributary Sampling Results

	Flow, Q		Phosphorus, P		Solids, TSS	
	cfs	%	#/day	%	tons/day	%
So Branch (04)	65	48	4.3	45	9.3	44
East Br by difference	(6)	-4	(2.5)	-29	(5.6)	-27
West Branch (41)	64	48	5.7	68	15.3	72
Van Etten Creek (11)	10	6	0.9	11	2.3	11
Pine River @ Co Line (01)	97		16.7		6.48	
Tributary estimate for balance (not including Duvall)						
	124	128	7.5	45	19	293
Van Etten River below Dam	145		17.2		0.9	

P and TSS Update, continued from page 3

OBSERVATIONS

1. Based on these estimates, it appears that flow at the junction of the East and West Branches at F-30 is being under estimated or the West Branch flow is being over estimated resulting in a negative flow calculation for the East Branch. Flow stage measurements will be made in 2021 in an attempt to create a more accurate stage/flow curve for the sites.
2. The Pine River is by far the major contributor of P and TSS to the lake. The indications are that the bulk of P and TSS are carried to the lake during spring melt runoff and during rain events.
3. The flows in Van Etten Creek below the dam may also be over estimated due to the High water levels in Lake Huron in 2020.
4. Over the long term, the amounts of P and TSS leaving via the Van Etten River are significantly less than the amounts entering from all sources. The difference is due to a combination of settlement of solids after they enter the lake and uptake of P by aquatic growth which becomes a part of an internal recycle.
5. Limited Total Phosphorus sampling will be conducted in 2021 using the services of the Prein Newhof Laboratory of Grand Rapids, Michigan.
6. The rating curves are in need of refinement, particularly at higher flow periods, through the collection of additional stage/flow measurements using the velocity meter and standard procedures.

RIVER KEEPERS' UPDATE - WE WANT YOU!

The River Keepers program is aimed at establishing a better monitoring system to cover the large area encompassed within the watershed. Individuals volunteering for this program are being asked to watch out for things that could be problematic or might require some action to be taken, but also to report back natural occurrences like animal sightings or quality of fishing/hunting.

Thank you to all of our current volunteers – your efforts are greatly appreciated and essential to keeping abreast of conditions within the watershed.

Please consider being a River Keeper and contact Carole Plunkey at *caroleplunkey@charter.net* or 739-8717 for more details.

Planned USAF Van Etten Lake Interim Remedial Action

The Proposed Plan (PP) presents a proposed interim remedial action (IRA) to reduce contaminants entering Van Etten Lake at Ken Ratliff Memorial Park. Van Etten Lake and Ken Ratliff Memorial Park are located adjacent to the former Wurtsmith Air Force Base (AFB), Oscoda, Michigan (Figure 1). The PP identifies the alternatives considered,

1. Alternative 1: No Action
2. Alternative 2: Hydraulic Control Using Pump and Treat with Ion Exchange Resin and
3. Alternative 3: Hydraulic Control Using Pump and Treat with GAC.

Figure 1: Site Location Map

It also identifies the preferred alternative of the Air Force (USAF), and provides an explanation of how the public can participate in the decision-making process.

Aqueous film-forming foam (AFFF) containing per- and polyfluoroalkyl substances (PFAS), including perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA), was used on the former Wurtsmith AFB from the 1970s until 1993 in buildings, fire suppression systems, fire stations, equipment calibration areas, and other areas where AFFF was needed to prevent or extinguish fires on the installation.

The use of AFFF has resulted in a release of PFOS and PFOA to groundwater and soil on the former Wurtsmith AFB. Available data indicate contaminated groundwater associated with source areas located within AFFF Area 1 (Base Operation Apron) and AFFF Area 15 (Site SS071) is migrating into Van Etten Lake. The highest PFOS and PFOA concentrations in this groundwater are found near Ken Ratliff Memorial Park (Figure 2). Therefore, the focus of this IRA is to prevent the further migration of these high concentrations of PFOS and PFOA into the lake at the Park.

Based on available information, the USAF preferred alternative to reduce this migration is alternative 3, hydraulic control, using pump and treat with granular activated carbon (GAC). The IRA will include a line of extraction wells that will intercept flow with the highest concentrations of PFAS.

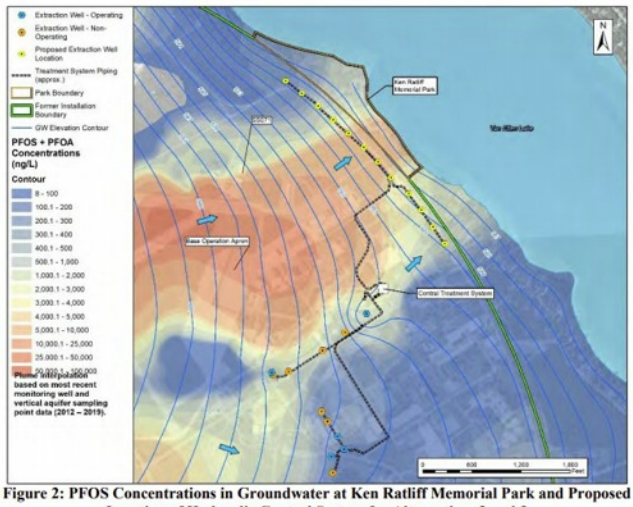


Figure 2: PFOS Concentrations in Groundwater at Ken Ratliff Memorial Park and Proposed Location of Hydraulic Control System for Alternatives 2 and 3

The extraction wells will remove approximately 724,320 gallons of groundwater per day. Extracted groundwater will be treated and then discharged to the storm drain using the existing treatment system infrastructure at the Central Treatment System (CTS). The CTS's treatment capacity will be doubled to handle the increased load. The IRA will also provide information to support the ongoing site-wide remedial investigation (RI) and future feasibility study (FS).

The public can submit written comments on the plan until September 3, 2021. Comment letters must be postmarked by September 3, 2021, and should be submitted to:

Dr. Catharine Varley
BRAC Environmental Coordinator
Air Force Civil Engineer Center
2261 Hughes Avenue, Suite 155
JBSA Lackland, TX 78236
Email: catharine.varley.1@us.af.mil

If requested, the USAF will provide the opportunity for a public meeting to explain the Proposed Plan and the alternatives presented.

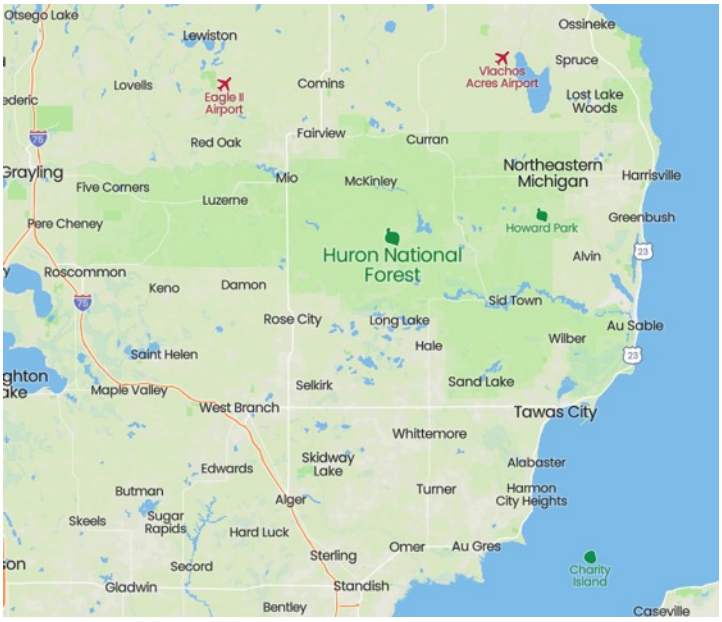
The complete Proposed Plan can be accessed https://ar.afcec-cloud.af.mil by selecting the BRAC option in the upper left corner of the site and then "Wurtsmith" at the bottom of the list and then searching for documents after 7/21/2021. The public can also access the administrative record, as well as view other items in the information repository, at the Robert J. Parks Public Library.

Huron National Forest: Right in Your Own Back Yard

Think about the last time you took a drive on M-72 and headed west into the "green zone" shown on most maps that indicates you're in the **Huron National Forest.** Did you appreciate the beauty around you in these protected lands? Or have you noticed the great variety of woodlands and wildflowers while driving east out of Mikado or Oscoda, all the way to M-65? Those are a part of the Huron National Forest too. Or have you recognized that when you're visiting the Reid Lake Foot Travel area in Millen township, that you're actually within the Huron National Forest?

Established in 1909, this prestigious forest has a total area of over 438,000 acres, all managed by the US Forest Service. Offices in Mio and Oscoda have lots of information on recreational activities, including maps of specific trails, lakes, fishing sites, and information on camping and wildlife.

In 1945, this forest was administratively combined with the Manistee National Forest to create the Huron-



Manistee National Forest area, but they are not physically connected.

For more informatioin concerning this natural wonder in your area, go online to *www.fs.usda.gov* or simply "Google" Huron National Forest.

Watershed Wildlife Watch
Ruffled Grouse

These chunky, medium-sized gamebirds weigh just over a pound, are grey/brown in color, and have short, broad wings and small heads with arched bills. They feed on shoots, buds, and seeds of small shrubs and prefer habitats with aspen, spruce, and birch trees.

RUFFED GROUSE
Bonasa Umbellus via Wikimedia Commons

Often incorrectly referred to as "partridge", these birds are basically solitary, although several may feed or roost together. Adult males establish territories as small as six to ten acres and aggressively defend them against other males during breeding season. Grouse beat their wings, making a putt-putt-putt sound referred to as "drumming"to attract hens and ward off other males. This drumming goes on all year, but increases in spring. Hens lay clutches of 8-14 eggs and at sixteen to eighteen weeks old, the young grouse leave to find new homes, which is called the "fall shuffle", and then they are vulnerable to predators and human hunting.

People interested in attracting grouse may clearcut a forested area, making sure to leave one log per acre as a potential drumming site. Hunting season for grouse in Michigan is September 15 – November 14 and December 1 – January 1. Few birds live past 3 years.

PRVEL Coalition Board

Chair - Russell Williams	jrusswill@gmail.com
Secretary - Deborah Miller	millerdb613@gmail.com
Treasurer - Dan Stock	dstock4239@charter.net
Carole Plunkey	caroleplunkey@charter.net
Scott Lingo	scott@targetrealestate.com

Non-Voting Advisors

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

How Can I Volunteer for PRVEL?

Our conservation group is comprised totally of volunteers, all working together to make things happen for the benefit of the watershed. Please step forward and make 2021 and 2022 the years you help us make a difference in your neck of the woods.

Ways you can volunteer:	Contact via email as shown above
• Macro invertebrate sampling program – Spring and Fall	– Deborah Miller
• Monitoring fishery – place temp loggers	– Scott Lingo
• River Keepers/monitor watershed out in the field	– Carole Plunkey
• Write articles for the newsletter	– Dan Stock
• Serve on the watershed board of directors	– Carole Plunkey
• Project workers – out in the field (seasonal)	– Carole Plunkey
• Fund raising – bring ideas to attention of	– any board member

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 _____