Shoot for fun and a good cause Saturday: See inside

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TUESDAY, OCTOBER 31, 2023

$2.00

Millpond status update

PHOTOS COURTESY TODD LOSEE, NISWANDER ENVIRONMENTAL

Above: This photo depicts the River Raisin coming through the old Brooklyn Dam during the drawdown. The impoundment, referred to as the "millpond" locally, is in the back. The yellow material you see across the river mid-picture is a turbidity curtain that helped to curtail the flow of sediment moving downstream during the drawdown of the impoundment.

Right: This photo shows the River Raisin just upstream of the Old Irish Mill and the former impoundment directly behind the building. The photos depict the river already adjusting back to a meandering river one week after the drawdown was complete. Project manager Chris Freiburger, says, "They are a great representation of how resilient rivers are, given the opportunity to flow freely. Truly a rebirth of a river."

'It's what we expected'

Officials: Everything is on track at the Brooklyn Dam project

By John Hummer
Editor

Despite some public concerns about what the work at the Old Irish Mill's Brookly Dam and the drawdown of the impoundment (known locally as the millpond) is doing to the water levels in the area, Chris Freiburger, project manager and consultant with Niswander Environmental, says there is nothing to worry about.

"The overall message is we're on schedule," he stated. "Nothing that has happened wasn't anticipated – it's what we expected. It is where we thought it would be at this point."

The permitted drawdown of the impoundment began on Aug. 11 and continued through late September over a period of about 45 days.

"Under the EGLE (Michigan Department of Environment, Great Lakes, and Energy) permit conditions, the impoundment was to be drawn down no more than a half a foot per day," Freiburger stated, noting that the limit of six inches per day was for two main reasons: 1) to reduce the amount of sediment that was in the impoundment being released downstream, and 2) so they didn't cause any issues with flooding downstream or any environmental impacts of erosion downstream.

"It's a slow release of water like that would naturally occur during a storm event – so you're not releasing a big floodwater all at one time," he said. "You do it over a long period of time. We released the water in the impoundment slowly because we knew the (river) channel was able to handle that amount of flow downstream. It's not going to cause any bank erosion or (river) bed erosion downstream. It's safely doing it, so it doesn't cause any flooding or property damage."

The controlled drawdown was accomplished by opening what is called a sluice gate – a movable four-foot gate on the impoundment side of the dam in the spillway allowing water to flow through it. "It was open daily," Freiburger said. "During the drawdown period, we would be down there a minimum of one time per day, sometimes two or three times a day to adjust the gate opening." He noted that they would open the gate very little each day, like one tenth of a foot, much below the permitted maximum of half a foot a day.

"We drew it down slower than the permit conditions allowed," he stated.

Freiburger explained that water surface elevations were monitored both manually by personnel from Niswander Environmental and electronically so they

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A tough history

Prehistoric Forest: Avoiding extinction

After years of exposure to the elements, vandalism, and neglect, T-Rex is one of the few dinosaurs still standing with minimal damage.

Michelle Mclemore gives a rundown of the vandalism and thefts that have plagued Prehistoric Forest through the years, and how officials hope to embrace the company's unique history moving forward.

Story and Photos
By Michelle McLemore
Contributing writer

A quick internet search yields a variety of memories, postcards, photos, and videos of the famed Irish Hills Prehistoric Forest. Mention the tourist attraction at a local restaurant, and most folks either have stories of their own visits or yearnings they could have visited it in its heyday. But what many don't realize is that Prehistoric Forest has one of, if not the highest record of "borrowed" artifacts and vandalism in the Irish Hills U.S.-12 tourism sites.

The park opened officially on June 3, 1963, owned by Bud Rogers and Bill Pettit of Adrian and Jim Sidwell of Murfreesboro, Tenn. Prehistoric Forest was modeled after a similar park Pettit owned in Tennessee. Over time the tourist site developed a safari train, true-to-size fiberglass dinosaurs, a caveman village, a 35-foot waterfall, fossil digging pits, a burning spring, an active volcano, a guided walking tour, a kiddy ferris wheel, a crazy maze, a mammoth gift shop, the land of leprechauns, and eventually a 400-foot water slide, moonwalk, game room, and snack shop.

The original automaton dinosaurs were built in a factory in Tennessee with a team of artisan engineers supervised by James Q. Sidwell, formerly of the Chicago Field Museum.

The first prank occurred within two years. In July of 1965, the Neanderthal man had ambled its way to M-50 (and undoubtedly with a little help) and climbed a 45-foot observation tower at

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The Wooly Mammoth may be missing its tusks, but it is penned and ready to be restored in order to greet new generations in the Irish Hills potentially in 2024.

PHOTO COURTESY TODD LOSEE, NISWANDER ENVIRONMENTAL

This drone photo, pointing west, shows the Columbia lower elementary school at left and the once-ponded area that has returned to a river.

Mill pond drawdown . . . continued from page 1

could record them using a couple of different methods. The electronic water elevations are posted on the River Raisin Watershed Council website at riverraisin.org/brooklyn-dam. Scroll down below the "Top Ten Questions About the Brooklyn Dam Connectivity Project" and click on the link "Drawdown Gauge". (By the way, those "top ten questions" and their answers address many concerns that residents may have about the project.)

Freiburger noted that water levels were not manipulated during the process. He noted the facility is called a "run of river" impoundment. "What's coming in, is pushing water out the other side in the exact amount," he explained. "There's the same amount of water that is coming in the impoundment – just like before the gate was opened up. Whatever water is coming in that impoundment is going through the gate now instead of over the top of the spillway and going [downriver]. No water is being held up. Opening up the gate and drawing down the impoundment, that in no way will reduce the amount of water that's going to happen downstream. Flows may be lower downstream naturally because we were in drought conditions this summer and we had low flow."

During the drawdown, project personnel looked at several things, one being the elevation of the impoundment to make sure they were staying within permit conditions. Water and air temperatures were recorded. They also monitored turbidity (water clarity) both at the discharge of the impoundment and at Swain Memorial Park.

"For the first 30 days of the drawdown, water clarity was consistent," he noted. Then once the water level got low in the millpond, the water moving through was more turbid. "There was about a week-and-a-half period where sediment definitely was moving – not unexpected," Freiburger said. "Sediment was mobilizing from the former impoundment."

Prior to the drawdown, workers placed a turbidity "curtain" in the river below the dam to slow the flow and try to get some of the sediment to "drop out" and reduce the amount of sediment mobilizing downstream, he explained. Freiburger noted that for that short period, people might have noticed more soft sediment covering the river bottom at Swain Park. "The water was definitely dark in appearance," he stated.

After that week-and-a-half, the water started clearing up as the river channel cutting through the impoundment decreased. "After two weeks or so (roughly at the end of August), the flows were clear again from the discharge from the impoundment because most of the (river channel) cutting had been done," Freiburger explained.

"The drawdown is complete – the gate is completely open," he stated.

"Largely, the sediment that was on the bottom of the stream channel through Swain Park – if you go down there and look now – you see gravel again, gravel and cobble. The water is clear down there again.

"It's not the prettiest thing in the world when it is happening – it's common with any dam removal," Freiburger said. "There was nothing that happened that was unanticipated as part of the sediment movement process. You really try to manage the rate at which you do the drawdown to minimize the amount of sediment that's going to be released."

One of the other things that was required as part of the permit by both EGLE and the Michigan Department of Natural Resources (DNR) was monitoring surveys for both stranded fish and stranded mussels. For any fish or mussels found, they would need to be removed and relocated to another part of the river downstream, which was typically at Swain Memorial Park. Freiburger is currently working on the report to submit to both EGLE and DNR.

"We didn't locate any mussels," he said. "That wasn't a big surprise at all. It was not A good habitat."

A variety of fish were collected in the impoundment before the drawdown including bluegill, redear sunfish, hybrid sunfish, pumpkin seed, carp, green sunfish, gold shiner, common shiner, and one northern pike. "Most of the fish were about four to five inches in size, with the exception of the carp," Freiburger noted. He also stated that the northern pike was about seven inches long. They collected around 200 fish in total; all were relocated near Swain Park.

"From a fisheries perspective, there was nothing surprising," Freiburger said, noting that it wasn't an impressive fishery.

Another thing the public may notice is several big boulders down by the outflow of the dam. Freiburger said they were there for emergency purposes as requested by EGLE's dam safety unit in the event the gate they were opening at the dam broke and water flow needed to be slowed down. They ended up not being needed and will now be used later in the project to help create river rapids and ripples as the new river channel takes shape.

So, what is next for the project? Freiburger says they need to wait for the soil in the former impoundment to solidify. Once that happens, as the weather gets colder, a topography map will be put together of the impoundment. "That will become important for the design (of the new river channel)." It will also affect the design of the proposed new Mill Street bridge (slated for 2025) that crosses the river just downstream of the dam. Fleis & VandenBrink, an engineering firm, is likely going to be contracted to do that work. "We'll have design elevations, and then we'll tie the bridge information into the stream information to work cohesively together.

Fleis & VandenBrink are also currently working on a hydraulics study to make sure whatever (bridge) structure is put in can safely allow water flows to pass under it, doesn't flood anybody out, and is safe and capable of handling storms.

Another part of the project that is in the works is an archaeological study, so the project meets the requirements of the State Historic Preservation Office (SHPO). "They've got to do an assessment of the impoundment to look for any artifacts since the drawdown has occurred," noted Freiburger. "As soon as they can get out there when it's frozen or dried out enough, they will be doing that survey out there. Until we get that survey done, we can't get on to the next step with the SHPO process."

An ancillary part of the overall project that has begun are plans, being put together by a subcontractor engineer for Niswander, for a rock rapids structure over the top of Nooney Dam at Vineyard Lake to allow fish passage, Freiburger said. This is part of the larger Upper River Raisin Watershed Restoration and Connectivity Project.

He added that landowners adjacent to Nooney Dam will be contacted to make sure the dam meets their needs. That dam is owned by the Jackson County Drain Commissioner's Office and is also on the table for that project. "The Brooklyn dam is obviously a very significant component of that overall project, but it's not the only piece," he stated. "The other piece of that is the Nooney Dam. The U.S. Fish and Wildlife Service and Michigan Department of Natural Resources are big funders of the overall project.

"They want to get fish passage upstream," Freiburger noted. "Fish could not get upstream because they could not get over the Brooklyn Dam or the Nooney Dam," adding that the idea is to reconnect the system to allow fish to go upstream as far as they want and need to – into Vineyard Lake and beyond. He stressed that the work at Nooney Dam will not change the lake level of Vineyard Lake but will simply allow fish to move into and through the lake.

Freiburger noted that once construction of the new river channel is created around the Brooklyn Dam, fish will have access to start moving upstream from there through the old impoundment, or millpond.

The project is being funded by EGLE, the DNR, and the U.S. Fish and Wildlife Service.

For more information, visit riverraisin.org/brooklyn-dam.