

Nestle Ice Mountain Water Withdrawal Assessment

Michigan Trout Unlimited Review

Recently, there has been a lot of press and communications circulating about the Nestle proposal to increase their water pumping. Some miscommunications about it stem from a lack of understanding about large quantity water withdrawals and the Michigan statute governing them (Part 327). MITU reviewed this withdrawal expansion just prior to the media attention, and would like to share some pertinent information concerning it. In order to evaluate this new request, it's critical to understand the laws governing it, which are relatively complex. What follows is not a comprehensive summary of all aspects of our governing laws for water withdrawals, but will explain key portions of it that are relevant to understanding their latest request. If you want to learn about all aspects of our water withdrawal law, Part 327, MITU has on its website a series of narrated automated presentations that cover all the fundamental aspects of it. It was the content of a series of one-day workshops that MITU and partners hosted several years ago. You can review all of it, or pieces of it, at your convenience, at www.michigantu.org/index.php/michigan-tu-contacts-2/michigan-tu-contacts-4/water-withdrawal-a-use-policy.

In 2008, public acts 179 – 190 were enacted, creating both the Great Lakes Compact, and Michigan's own laws governing large quantity water withdrawals (LQWW's). MITU staff represented our organization in the governor-appointed council that developed the framework for the laws, in the legislative development process to form the bills as enacted, and on each subsequent state water withdrawal council formed to oversee its implementation and development. Because water withdrawals are so foundational to our coldwater fisheries, MITU has invested dedicated staff time to be intimately involved in this arena, for over 12 years now.

During the late summer of 2016, Nestle contacted MITU directly to discuss their upcoming plans to expand withdrawals at a particular well location. The well had been established, at a lower rate of pumping, prior to enactment of the new laws in Michigan. They wished, for various reasons, to increase the pumping at this particular well site. According to the 2008 laws, referred to as Part 327, they needed to submit their request for expanded pumping, to the water withdrawal assessment process. This process, explained in more detail to follow, predicts the level of stream flow reduction that would result from the pumping, and predicts the amount of impact to fish populations that might result from it. Part 327 has well-defined procedures for the assessment process, and has statutorily defined levels of impact that can't be exceeded (individually or cumulatively by all large volume water users in the individual watershed), referred to as an Adverse Resource Impact (ARI). If the assessment process determines that the new withdrawal will not cause an ARI, then the applicant is given a registration and authorization to commence. Nestle passed this assessment process and was approved, under Part 327. They are however, also required to get a permit under a different statute, called the Safe Drinking Water Act, and that is the permit receiving public comment now. This is different from the Part 327 assessment process intended to protect fisheries (it largely focuses on provisions to protect public health from water that will be consumed by humans). Section 325.1017, of the Safe Drinking Water Act, pertaining to bottled water supplies, lays out that their impacts must be assessed in light of Part 327.

Nestle described the site to us, explained where they were in the process, and offered to share any information or data they had so we could evaluate this new request for ourselves. MITU requested the details concerning their water withdrawal assessment process. Nestle' provided much of that information, and then requested that the DEQ independently provide us with any and all information about their assessment that we needed. The DEQ



promptly responded with the details of the assessment process, and answered all follow up questions, providing all of this in written correspondence to MITU.

MITU staff found the assessment process to have been completed in a standard and legally compliant manner. It's important to remember that since the 2008 enactment of Part 327, several thousand new LQWW's have been requested, assessed and a majority registered (Figure 1). This equates to roughly one new request of this size category having been submitted daily for the last 7 years. The entire list of new registered LQWW's can be viewed online at the DEQ's website at www.michigan.gov/deq/0,4561,7-135-3313_3684_45331---,00.html (click on "Water Withdrawal Assessment Tool Registration Requests"). To date, 3884 LQWW requests have been made; 3296 approved; 163 retracted; 317 canceled; and 35 denied. Most of these have been for agricultural irrigation purposes (~90%). While Nestle is garnering unique scrutiny for their recent request, they are but one in a very long list of LQWW's that have been requested in recent years. MITU's concern for monitoring the LQWW program and its new withdrawals started on day 1, and has continued through all of the years and requests, and isn't starting with this particular request.

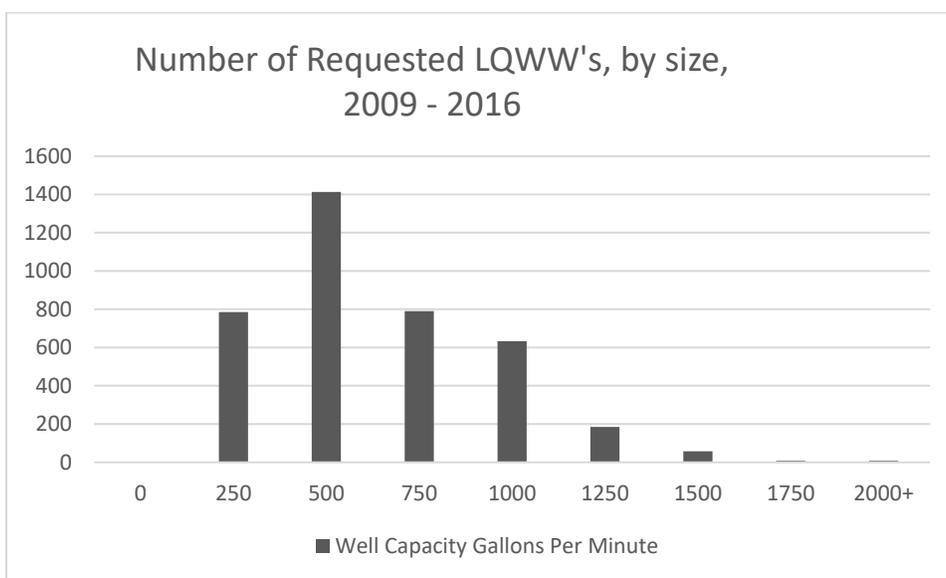


Figure 1. Since 2009, approximately 3,880 requests for new large quantity water withdrawals have been submitted. Roughly 2/3rds of those have been approved or implemented. This figure shows the number of requests for LQWW's from 2009 – 2016, based on the requested capacity of the new wells, in gallons per minute (GPM). Nestle's recent request is for a total of 250 gpm.

To explain the nature of the Nestle assessment process, let's begin with some basic background on how the law and the water withdrawal assessment process works. Each stream segment in Michigan is categorized by its size (stream, small-river or large-river) and its summer time water temperature (cold, cold-transitional, cool, or warm). Each category has a different predicted response curve (impact to fish populations with increasing reduction in summer low stream flow volume), based on statewide survey data and modeling done by the Michigan DNR (Figure2). Each stream also has a predicted "index flow" or summer time low baseflow, which was predicted for all stream segments from a combination of data and modeling. MITU has been active for nearly 6 years now, measuring real baseflows on our coldwater streams, to ensure the predictions are as accurate as possible – so over-withdrawals don't happen. In Part 327, each stream category's response curve is defined, and broken into



several defined “zones” (typically A, B, C, and D). Zone A is the beginning zone, where little impact to fish occurs. Zones B and C represent zones of increased risk of impact and trigger different procedures or actions to occur. The line between zones C and D is referred to as the Adverse Resource Impact line. This ARI line, is the legal limit of impact a river can experience due to accommodating new LQWW’s. A new LQWW is not authorized, if it’s predicted to cause a zone D impact.

In the water withdrawal assessment process, there is both an “online screening tool”, and a site-specific review process. All applicants start by entering their new request into the online screening tool. If a new proposed LQWW is predicted to be within Zone A, it is allowed immediate authorization online. If it is predicted to be in any other zone, it must go through a site-specific review process. The online tool, was meant to screen out only the safest withdrawal requests so as to reduce the demand for the time-intensive site-specific review process. The procedures for site-specific reviews are defined in statute, and have been written out in greater specificity by the DEQ. The site-specific review process is where additional data collected at the site of the withdrawal can be used, if meeting standards, to replace certain model parameters predicted based on statewide less precise datasets the online tool uses. The other important point to understand, is that the online screening tool, for precaution, uses a “safety factor”, defined in statute, which reduces the predicted stream index flow by 50% (i.e., it assumes half as much stream flow as is actually predicted for the stream). When a request goes to site-specific review, the safety factor is immediately removed, and the models then use the actual predicted flow for the stream.

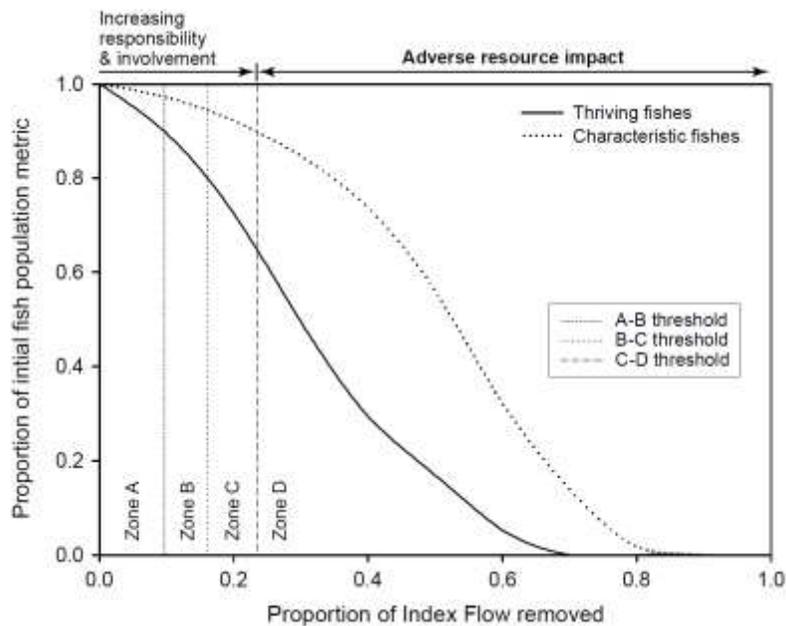


Figure 2. A hypothetical fish response curve for a stream category, overlaid with hypothetical policy lines for the response curve (each stream category has its own unique response curves and unique policy lines). For the cold stream category in Michigan, of which the impacted stream from Nestle’s recent request is categorized, zone A is defined as <1% change to thriving fish species (0.99 proportion on Figure 1). Zone C is from 1.0 – 2.99%, and zone D starts at 3%. As reported by the DEQ, Nestle’s site-specific review resulted in a zone C determination, and through use of their pump test aquifer data, ultimately resulted in a zone A determination (<1% predicted change to thriving fish species like trout).

The stream predicted to be impacted by Nestle’s recent request (the Chippewa Creek subwatershed of the Middle Branch Muskegon River, Osceola Township), is categorized as a “cold stream”, with a predicted baseflow of 2.0 cfs



(cubic feet per second). This category of stream has a zone A, C and D, but no zone B. The removal of Zone B from streams classified as cold was recommended by MITU during legislative development, as precautionary tool to protect these coldwater fisheries, as zone C triggers additional notifications of the public. The Nestle request was predicted by the online screening tool, to result in a zone D. This is not atypical for a stream with only 2 cfs of water (with the online tool safety factor resulting in 1 cfs used in calculations). Therefore, Nestle had to then undergo the site-specific review process. This is the process set up in statute, to make sure scrutiny beyond the online tool is given to significant withdrawals. During the site-specific review, the safety factor was removed, per statute and procedure, and this resulted in their request receiving a zone C prediction, and authorization – per law.

Nestle had also provided the DEQ with two types of additional data from the site, “pump test” data and “stream flow” data. The DEQ found the pump test data to meet its criteria, and applied the parameters of it to the assessment models. Pump test data are derived from pumping a well at a certain rate for a certain time duration, noting the drop in well water level; then ceasing pumping, and recording the rate and extent of recovery of the well water level. This data informs the DEQ about the specific nature of the aquifer and geology the well is located in, and helps to refine the estimate of how pumping will deplete nearby stream flows. When the DEQ applied the pump test data, it resulted in the approved zone C prediction, moving back to a zone A prediction. The DEQ did not use Nestle’s stream flow data to further adjust the assessment. Nestle reports that their flow data shows more stream baseflow than the state’s model predicts. However, that flow data was not used in this assessment.

We acknowledge that during site-specific reviews, that some assessments using copious amounts of applicant derived data, have the possibility for tampering. However, in this case, the zone C determination, making this request legal, was derived only through the mandatory removal of the online tool safety factor.

Given these details, MITU has not found cause or grounds for objecting to Nestle’s request for the increased water withdrawal. MITU does not “support” this request, or other LQWW requests. We continue to hope that citizens opt for drinking tap water or purchasing bottled “purified drinking water” rather than “spring water” (which by necessity usually requires these spring water sites to be located in trout watersheds). If there was not a market demand for bottled spring water, this request would not be occurring. However, while we certainly would prefer that all the groundwater near this small trout stream find its way into the stream to ensure the trout’s optimal success, Nestle appears to be within their legal rights, as far as Part 327 is concerned. We will be continuing to monitor this withdrawal’s development but we will also be staying focused on our other proactive water withdrawal protection efforts. We will continue to help provide leadership and oversight of the implementation of Michigan’s water withdrawal assessment program, and we will continue (as long as funding allows) to pro-actively measure trout stream baseflows across this state.

