

Left Out to Dry

How Michigan Citizens Pay the Price
for Unregulated Water Use



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Acknowledgments

Left Out to Dry: How Michigan Citizens Pay the Price for Unregulated Water Use
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Executive Summary

Water use in Michigan is currently a free-for-all. Lack of effective laws allows large users to treat Michigan's waterways and the Great Lakes like their own private wells, drawing off unlimited quantities of water without regard for how it will impact nearby waterways or other users. As a result, large water users are leaving residents without access to clean water, destroying fish and wildlife habitat, and diminishing the value of property.

Michigan's legislators have introduced bills to address the problem, but partisan politics and pressure from large water users have thwarted legislative progress. As a result, large water users continue to exploit Michigan's water supplies and Michigan citizens pay the price.

Five case studies of water supply abuse show the extent of the problem:

- **Monroe and Washtenaw Counties' Dry Decade:** In the early 1990s, rock mining quarries in Monroe County increased extraction to more than 20 million gallons of ground water per day, drying up the wells of more than 2,000 homes in a 100 square mile area and costing residents millions of dollars.
- **Nestlé's Thirst Drains Waterways:** Citizens in Mecosta County have spent close to \$1 million and over four years entangled in a lawsuit with Nestlé, the world's largest water bottling company. The company is bottling and selling hundreds of gallons of spring water each minute causing lake levels, streams, and wetlands to decline.
- **Saginaw's Water Blight:** Increased irrigation by potato farms in Saginaw County has caused hundreds of wells to go dry during peak irrigation months since 1994, posing such a public health threat that the County Department of Public Health took legal action. Local citizens convinced their legislator to pass a law to help resolve conflicts between residents and farmers, but this law only takes affect after conflicts arise.
- **Oakland Ponds Drained for Gravel:** Owners of a gravel pit in Groveland Township increased their water use and lowered the water table to the point of drying up ponds, killing trees, and creating sinkholes on nearby residents' property.

- **Selling Public Water for Personal Gains:** In Livingston County, a developer claimed the rights to groundwater and sold it to three local townships for \$3 million—much more than the value of the land. The developer profited by selling a public good at public expense.

These are not isolated incidents. In fact, there are many other stories of this kind across Michigan. Unfortunately, there is nothing stopping other situations like

these from occurring because we still do not have laws preventing irresponsible water use.

To protect our water for future generations, Michigan needs to pass comprehensive water use laws that will prevent adverse impacts to our waterways and natural resources, stop water from being diverted from the Great Lakes basin, require legislative approval for the private sale of water, make Michigan a leader in water conservation, and require all water users to report their use to the state.

Introduction: The Great Lakes' Illusion of Abundance

Water is what makes Michigan a great place to live. Our rivers are where we fish and canoe, our 11,000 inland lakes are where we spend our summers boating and teaching our children to swim, and our Great Lakes form the mitten that we call home. Michigan is defined culturally, economically, environmentally, and physically by the Great Lakes, and all of our waters are connected to the Great Lakes as part of a large, fragile network. Michiganders have a deep and abiding connection to the Great Lakes and our inland rivers, lakes, wetlands, and streams.

Deposited by glaciers more than 6,000 years ago, and holding 20 percent of the world's surface fresh water, the Great Lakes seem like limitless natural wonders. In reality, the excessive removal of water will draw down the lake levels over time. Nonetheless, Great Lakes water is in high demand. Large water users like the Nova Group have already proposed shipping large quantities of Great Lakes waters to other parts of the world, and as demand for water increases across the globe, our waters will be even more of a target.

Because of this illusion of abundance, Michigan's waterways are being abused

through overuse. Our current system is a free-for-all, where multinational corporations and other large users can treat our waterways and the Great Lakes like their own private wells, drawing off as much water as they want without consent or regard for how it will impact nearby waterways, their neighbors, or other users. Water bottling companies, mining companies, and agribusiness are taking advantage of this "wild west" situation and drying up wells, leaving residents without access to clean water, creating burdensome costs, threatening public health, and diminishing property value.

Twenty years ago, Governor Jim Blanchard promised to begin regulating water withdrawals when he signed the Great Lakes Charter with the seven other Great Lakes states and two Canadian provinces. Since then, Michigan has fallen behind all other Great Lakes states in passing such protections.

Michigan's lack of progress is not for lack of trying. Bills to regulate water withdrawals have been introduced by both parties in both houses of the state legislature. Senator Ken Sikkema's comprehensive water use bill introduced in 2002 would have required permits for large water users (100,000 gal-

lons per day or more), water conservation practices, and improvements to water resources, among other things.¹ Governor Jennifer Granholm's Water Legacy Act proposed in 2004 would also have required permits for large water users (2 million gallons per day or 100,000 gallons per day in sensitive areas), water conservation plans, improvements to water resources, and notification to adjacent property owners.²

However, partisan politics and pressure from mining interests and agribusiness have thwarted, slowed, or watered down any legislative attempts to address this problem, including the two attempts mentioned above, neither of which ever made it out of committee. The failure of our state to pass water use laws has harmed our natural resources, left our businesses with regulatory and resource uncertainty, and ignored the best interests of Michigan citizens.

This report tells the stories of five

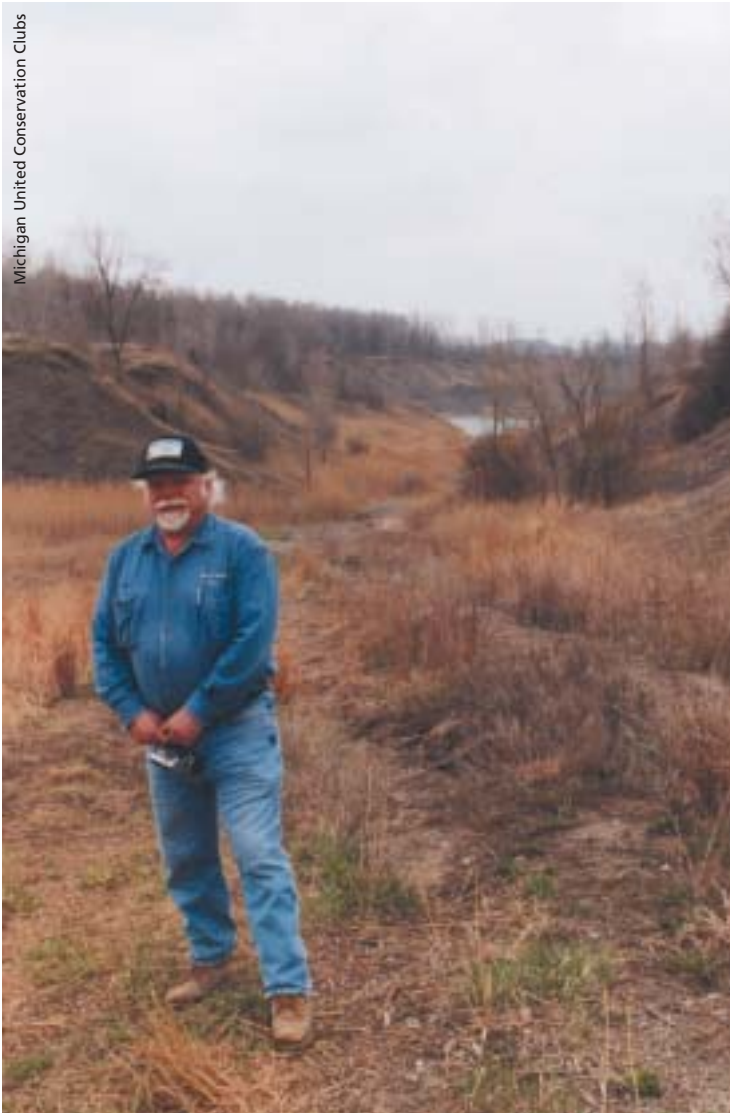
instances in which large water users took advantage of public water resources for private gain. Each case brings to light different problems with our current lack of water protections. Taken together they tell the story of how Michigan's inadequate laws are harming our state and its citizens.

These are not isolated incidents. In fact, there are many other stories of this kind across Michigan. Until the state passes comprehensive laws preventing irresponsible water use, Michigan's water will continue to be up for grabs.

It does not have to be this way. For healthy families and a high quality of life, we need to protect this precious resource by passing laws that ensure responsible use of our water. Michiganders cannot wait any longer. Our waterways are too valuable to be left hanging in the balance while politics and special interests stand in the way of progress.

Case Study:

Monroe and Washtenaw Counties' Dry Decade



“It is hard to imagine that thousands of families in our Great Lakes state could be left without water for a decade, but that is exactly what happened to my community when irresponsible water users were left to their own devices. Without new water use laws, there is nothing to stop the same thing from happening to people in other parts of the state.”

—Bill Tobler, President of ICAG³

Monroe County is Michigan's only county on Lake Erie. Along the lakeshore lays a unique ecosystem of shallow marshes and wetlands found nowhere else in Michigan, which attracts waterfowl, birdwatchers, and hunters.⁴ Washtenaw County's name comes from the Chippewa word meaning "grand river" referring to the Huron River that flows through it and where recreational parks abound.⁵

Bill Tobler moved to this area in 1975 after finishing his doctorate in mechanical engineering at Cornell University and taking a job with Ford Motor Company.⁶ He was drawn to Augusta Township in part for its natural beauty. He never imagined that moving to the Great Lakes state would mean fighting a ten year battle in his community to return water to their wells.

Impacts: Sand Mines Dry Out Wells

Small sand mining operations had existed on the London Aggregates site, one mile from Tobler's home, since the 1970s. The first signs of water problems occurred in 1986 when the company, then called London Sand, began mining clay below the sand and exposed the limestone bedrock. The clay had been holding the water in its confined aquifer, and once exposed, water in the aquifer began to geyser from the bedrock, lowering groundwater levels. Within hours, residential wells near the site had gone dry. To prevent this from happening again, the court ordered London Sand to leave a 20 foot cap of clay on the bedrock in all of its future mining.

But in 1991, the new township administration ignored the court ruling and gave London Sand permission to break this 20 foot cap of clay over the aquifer and mine the limestone bedrock itself. This decision was made without public hearings, public notification, or any of the engineering review that the township ordinances require. By fall of 1993, a substantial number of local wells had failed, and it became obvious to local residents that the quarry was to blame.

Without water in the wells on their property, homeowners had to look for alternative sources of water. Most families buried a tank on their property and had water delivered at a cost of about \$30 per week. Other options included digging shallow wells or trenches in the sand to capture water, which were illegal and held a greater risk of contamination. Still another option was to drill a well into a deeper aquifer that lay more than 120 feet below the ground, which sounds like a good solution, except for the high levels of hydrogen sulfide, a poisonous and corrosive pollutant, found in that aquifer. Finally, some townships, such as Augusta Township, installed a municipal water system, costing residents and the township approximately \$7 million.

In all, Bill Tobler and affected residents estimate that these measures cost municipalities and private citizens approximately \$50 million over the decade. London Aggregates' estimated sales during their ten years of operation was about \$50 million, equivalent to what local residents and government had to pay as a result of the quarry's impacts on their wells.⁷

The Fight for Water

In 1995, when London Aggregates applied for an expansion of their mining operations to an additional 150 acres, concerned residents became involved. Without laws protecting their property, or legislators standing up for their rights, concerned residents living in townships near the quarry were forced to take matters into their own hands and formed the Inter-county Citizens Action Group (ICAG), with Bill Tobler at the helm.

It was clear to ICAG and other impacted residents that London Aggregates was the main cause of these water shortages, but since there were not water use laws in place (such as a permit system), it would be extremely difficult and costly to file a lawsuit to restore their wells.

However, when large quantities of water

are pumped out of the ground for mining, it has to be disposed of somehow, and a permit is required for discharging the water from the mine into nearby streams under the federal Clean Water Act's NPDES⁸ program. Monthly reports from London Aggregates showed that the company had begun violating its NPDES permit in its very first month of operation, and these violations continued. Michigan Department of Environmental Quality (MDEQ) studies indicated that these violations were harming aquatic life in Palmer Drain and Stony Creek. MDEQ sent the company violation notices and required it to do studies, but the company was not required to clean up its practices. Citizens contacted their county and state officials, but found little to no support.

In 1998, ICAG and PIRGIM filed a lawsuit against London Aggregates for 2,700 violations of the Clean Water Act, and to require that it stop violating its NPDES permit. In 2003, the court ordered London Aggregates to stop illegally discharging into the Palmer Drain. Instead of shifting its operations to accommodate the law, such as through wet mining, the mine closed its operations, and its employees went to work for nearby quarries.

After the lawsuit was completed, a study by the U.S. Geological Survey (USGS) and MDEQ was released confirming what ICAG had known all along: increased pumping was the major cause of the decline in groundwater levels and water shortages.⁹

It found that by 2001, an estimated 30 million gallons of groundwater was being used daily in Monroe County, and 75 percent was by quarry dewatering.

Lessons Learned

The mining operations at London Aggregates stopped in December 2002 and water began returning to the dry wells the following month. By mid year, water had returned to affected wells throughout the region, more than ten years after many of the wells had gone dry. There remain contamination problems in the wells, and the water is frequently a blackish color. Residents are hopeful that as the aquifer is replenished, these problems will diminish.

It is shocking that our state allowed a company to take water from 2000 families for more than a decade. This would never have happened if large water users were required to use water responsibly and take into account adverse impacts on natural resources and users. Yet we still do not have laws preventing this from happening in the future.

Our state needs to require water use permits for large water users, just as those discharging pollution into our waterways need a permit to make sure they do not harm waterways. In order to receive a permit, water users should have to abide by standards such as not harming other users or natural resources, using water efficiently, and making improvements to the waterways they are using.

Case Study: Nestlé's Thirst Drains Waterways

“Given the world water crisis and worldwide demand for Michigan’s water, we cannot sit idly by without protecting the fundamental principle that water is a commons for everyone, including our valuable and magnificent environment.”

—Terry Swier, President of Michigan Citizens for Water Conservation¹⁰

Terry Swier (front) is leading the fight against Nestle's water bottling facility



Dale G. Young/The Detroit News

Located in rolling farmland between the college towns of Mt. Pleasant and Big Rapids, Mecosta County is made up of small towns and lake communities where everyone knows their neighbors and many of the dwellings are summer cottages. It's a close-knit community where people give their neighbors pies made from the wild blackberries growing in their yards, where visitors still shout their arrival through open windows when they stop by, and where strangers are welcomed like old friends. It is a throw-back to bygone days when neighbors called each other to talk about their community and concerns. Simply put, it is about as unlikely a place as you could imagine for ground zero in Michigan's heated battle over the ownership and control of water resources and the commodification of public water.

The Battle Begins

The battle began when Perrier, later purchased by Nestlé, chose Mecosta County as the place to start extracting spring water and bottling it for sale. Nestlé, the largest food company in the world is now also the largest bottled water company in the U.S. with successful brands such as Ice Mountain, Arrowhead, and Poland Spring.¹¹ The Swiss multinational company's global presence and their near \$70 billion annual revenue gives them the kind of power akin to nation states, surpassing the Gross Domestic Product of many countries, such as Costa Rica and the Czech Republic.¹²

Terry Swier, a retired reference librarian at the University of Michigan-Flint, first became aware of the water bottling plans in 2000, when company representatives arrived to hold meetings with local communities. Along with other residents, she immediately became concerned about the impacts Nestlé's spring groundwater extraction plans would have on the area. Her land had been in her family for three generations and it is where she and her husband recently built their retirement home. She

joined with other concerned residents and formed Michigan Citizens for Water Conservation, or MCWC. While none of the members of the newly formed organization had much experience as activists or advocates for environmental causes, some of them owned waterfront property in the area, and all were concerned about how Nestlé's proposed pumping operation would impact their waterways. MCWC members were not eager to take on Nestlé, but they also were not eager to have their streams, lakes, and wetlands drained.

From the outset, Nestlé assured local residents that if the company and bottling operation were not wanted, it would not stay. So MCWC began organizing referendums in two local townships and Mecosta County to vote on whether or not to allow certain properties to be rezoned so that Nestlé could build its water bottling plant. In each referendum, the local citizens rejected the plant by a margin of two to one, providing clear evidence that citizens did not want the bottling plant in either Mecosta or Osceola County. Despite Nestlé's promise to leave if not welcomed by the community, it found a way to circumvent these referendums. Mecosta Township created a zoning board, which did not previously exist, and the board rezoned the area to allow the facility.

During this time, Nestlé had reached a 99-year renewable lease agreement with the Bollman family to install high-volume extraction wells that would withdraw spring water from beneath their private hunting reserve known as the Sanctuary.¹³ The Sanctuary property, enclosed by two twelve-foot fences, surrounds Osprey Lake, part of Thompson Lake, and "a diverse and unique system of wetlands, knolls, springs and creeks."¹⁴ Nestlé's agreement with the Bollman's was to pump spring water from the tributary groundwater beneath the Sanctuary, which in turn feeds a public stream and ultimately the Great Lakes. Nestlé was not required to get approval

from other offsite landowners to draw their water from the aquifer.

Impacts: Lakes, Streams, and Wetlands

Nestlé received approval¹⁵ to withdraw 400 gallons per minute (gpm) from the aquifer under the Bollman's property,¹⁶ with plans to sell up to 210 million gallons of water a year. At this rate, as much as 37 percent of the base flow, the water that normally flows into nearby Dead Stream, will be diverted or diminished, and water levels in nearby wetlands could be lowered an inch per day, likely drying up the wetlands and potentially some local streams.¹⁷ Dead Stream, "a curious and undeserved name,"¹⁸ is widely used by riparian owners and the public for canoeing, fishing, and boating.¹⁹ It flows to the Tri-Lakes, which then flows into the Little Muskegon River and eventually into Lake Michigan.

In May 2002, Nestlé began its commercial high volume extraction, pumping at an average of 160-175 gpm, and Dead Stream had a flow loss around 15 percent.²⁰ The stream began to develop mud flats for the first time that local residents could remember, with the stream bottom exposed to the surface in several locations. In fact, mud flats are becoming so prominent that grasses and plants are growing in the middle of the stream behind R.J. and Barb Doyle's home, which overlooks a bend in Dead Stream.

In addition, lake levels in Thompson Lake have noticeably dropped since pumping started. Shelly Sapp, who lives on the lake, has noticed the levels dropping for the first time since moving there in 1995. The newly exposed lake bottom in the swimming area and the curiously high dock make it obvious to anyone who visits that the lake level is falling. At Nestlé's approved pumping rate of 400 gpm, Osprey and Thompson Lakes would drop an estimated 6 inches.²¹ Wetlands near Dead Stream would lose at least two inches of water at that rate, and expert hydrologists have al-

ready observed a drop of 4-6 inches in local wetlands since pumping began.²²

Despite the clear link between the high-volume groundwater extraction and the corresponding impact on their waterways, residents were surprised to learn that the legislature had not passed laws preventing large water users from harming their waterways and property. Nestlé was granted a Safe Drinking Water Act from the DEQ in 2001, but they did not have to get a water use permit or demonstrate that they would not harm natural resources or other users. Citizens had no recourse but to take Nestlé to court.

The Fight for Water: MCWC & the Legal Battle

MCWC filed a lawsuit in September 2001, on the grounds that Nestlé's taking of groundwater was harming the riparian rights of landowners and violating Michigan's reasonable use standards of common law. In November 2003, after a 19-day trial, Judge Lawrence Root ruled that Nestlé's water operation unlawfully diminishes the lakes, streams and wetlands at issue in the lawsuit, and infringes on the riparian rights of the plaintiffs—lakefront and stream front property owners.

Judge Root also determined that the MDEQ should have required Nestlé to apply for a permit under the Inland Lakes and Streams Act (ILSA), a Michigan law originally passed in 1972 to regulate any activity that diminishes an inland water body. ILSA has previously been used in Michigan only for dredging projects, and Judge Root pointed out that this law should also be applied to water withdrawals.

Based on his opinion, Judge Root ordered Nestlé to terminate all water withdrawals at the Sanctuary within 21 days. However, the company filed an appeal and, after pressure by Governor Granholm and Michigan's Attorney General, the Michigan court of appeals reversed that decision to allow Nestlé to continue pumping at 250

gallons per minute while the case worked its way through the appeals process.

Oral arguments for Nestlé's appeal of Judge Root's decision were presented to the Michigan Court of Appeals on June 14, 2005, and a decision from that court is expected before the end of 2005. From there, it is likely that either side will appeal this Court of Appeals decision to the Michigan Supreme Court.

The lawsuit has already cost MCWC close to \$1 million in legal fees, studies, and expert testimony. To pay off this debt, MCWC members hold small fundraisers like bake sales and garage sales, write frequent personal checks, and started charging membership dues this year. One of the plaintiffs, Barb Doyle, recently held a garage sale with the attorney's wife to raise funds for the lawsuit. During the trial, MCWC members held pot luck dinners to feed their legal team and volunteers, and their lawyers and experts stayed in a bed and breakfast owned by one of its members during trial to keep down costs. Despite these efforts, MCWC still owes almost half of the \$1 million it has accrued, and the legal fees and expert fees continue to mount through the appeals process.

The leaders of MCWC are your average, hard-working, tight-knit American community of retired citizens, postal workers, small business owners, and parents of small children. MCWC is up against the world's largest food company, armed with teams of lawyers and seemingly limitless funds to pay them. In addition to MCWC's mounting debt, Terry Swier and other volunteers have spent countless hours of their

own time fighting to protect their water. They have faced intimidation in the form of slap suits threatened against family members of MCWC leaders for speaking out. Mrs. Swier readily admits that when she got involved with this, she never imagined the immense toll it would have on their lives.

Lessons Learned

Against all odds, MCWC won their lawsuit against Nestlé and obtained a ruling that the unlawful extraction of groundwater upon which many people depend should stop. But, this story is far from being over: the waterways continue to be harmed while the court case drags out, and the expenses will never be entirely reimbursed. Citizens such as these, whose land is being impacted by large commercial water takers, should not be forced into costly lawsuits to protect their preexisting right to use that water. The lawmakers of Michigan have a duty to draw up new laws prevent these conflicts, and give citizens a way to remedy conflicts if they do recur.

If Michigan had required permits for water withdrawals that would impact inland lakes and streams, as ILSA clearly intended, this situation could have been avoided. State officials should clarify the interpretation of ILSA and the Wetlands Protection Act (WPA) to specifically address water withdrawals that impact inland bodies of water, and to include a process to resolve conflicts between water users and riparian landowners. Nestle should have had to prove that it wouldn't harm local waterways before it was allowed to access a public resource.

Case Study: Saginaw County's Water Blight

"The operation of large production/irrigation wells in Saginaw County is the source of the groundwater withdrawal conflicts, and it creates an adverse impact to the community



and its aquifers. The loss of water, an essential element to a healthy life and an ingredient to a quality life, is a community, social, and health issue."

—Kevin Datte, Saginaw County Dept.
of Public Health²³

Since Michigan is surrounded by the Great Lakes, it is often difficult to imagine that our state is faced with problems of water scarcity. In reality, rainfall records show Michigan to be the driest state east of the Mississippi River during the months of June-August, which also happen to be the key growing months for farmers.²⁴ The Michigan Department of Agriculture has determined that there are some areas where there is not enough groundwater to supply all users, even in years of adequate precipitation.²⁵ Such is the case in Saginaw County.

Impacts: Parched Summers

Since the mid-1990s, there has been an increase in irrigation as well as residential wells going dry in Saginaw County during peak irrigation season.²⁶ Approximately 250 residential wells have been reported to have fully or partially become inoperative during irrigation season in Saginaw County since 1994,²⁷ when the Walthers Farm began major irrigation efforts for its potato farm.

In fall 2000, another 630-acre farm known as Merrill Michigan Farms began irrigating across the street from Carolyn Allen, a registered nurse. Despite the warnings from neighbors whose wells had been impacted by other large irrigators, Allen was not worried. After all, she and her husband were friends with the farm manager, who would do neighborly things like plow their driveway in the winter. But within weeks of the irrigation starting, the wetland behind Allen's home started to go dry as did the wells of her neighbors, and the farm manager turned down her pleas to find a solution.²⁸

Allen's case was not an isolated incident. To bring water to their homes, residents started installing new wells, which cost between \$2500 and \$5000, depending on the depth. In the summer of 2001 alone, at least 29 new residential wells were installed within 3 miles of irrigation wells because

of a loss in water pressure.²⁹ Those who could not afford a new well, including retired seniors on fixed incomes, had to find other solutions. The Red Cross and local fire department distributed drinking water, families filled up buckets of water at a working pump in a local cemetery to flush their toilets and run their households, and arrangements were made with the schools to let people use their showers. Some families with water, including the Allens, shared water from their homes to provide their neighbors with water, even hooking up a hose from their working well to neighbors' homes.

The Saginaw Department of Public Health began compiling yearly reports documenting the water problems reported to them. In its 2001 report, the Department determined that "a health hazard was imminent if water was not restored or available to those residences whose wells went down,"³⁰ and cited at least two pregnancies reported at high risk because of the water shortages.

The water shortages began when irrigation increased, and it was clear to those impacted that the large farms were causing the problem. But the irrigators denied that their pumping was causing the wells to go dry and blamed a combination of drought, out-of-date residential wells, and seasonal fluctuations.³¹

The Fight for Water: Protecting Public Health

The Saginaw County Department of Public Health, led by Environmental Health Services Director Kevin Datte, began legal action against the irrigators "with hope that recovery of residential wells would occur." The Department engaged the irrigators in mitigation plans and won court cases requiring the irrigators to help pay for replacement water hauled to residents with dry wells. In 2000, six townships adopted moratoriums on new irrigation wells because of the water shortage problems.³²

However, this was not solving the problem.

In his 2001 report, Kevin Datte wrote that “court intervention is supported by the Public Health Code...when an activity, action, or practice is a threat to the public health. The Public Health Code is an adequate tool to eliminate or remove a public health threat. However, a state law or county ordinance that regulates groundwater withdrawals and manages reasonable use of the groundwater for the protection of water resources would be more appropriate.”³³

Meanwhile, Carolyn Allen and her neighbors started an organization they called People Out of Water, or POOW, to find a solution. Their first step was to go to the Saginaw County Board of Commissioners, but they were told that since there were not any state laws regulating water use, there was nothing they could do to stop the problem. The group attempted a lawsuit to stop the drying of their wells and land, but it became too costly and time-intensive to continue.

In 2001, USGS concluded a 13 month study with MDEQ and found that water levels in Saginaw County can decrease as much as 20 feet during the growing season at a distance of half a mile from irrigation wells.³⁴ According to the project chief, Chris Hoard, a water level drawdown of as little as 14 feet can cause some residential wells to stop producing water.³⁵ The study also reported that the dry wells started functioning again once large-capacity irrigation wells stopped pumping. Clearly, increased irrigation was causing the wells to go dry.

This study helped Allen convince her state representative, John Moolenaar (R-Midland), to help. In 2003, Rep. Moolenaar introduced a bill that became law and requires the MDEQ or Michigan Department of Agriculture to investigate cases where a large water user has diminished the water supply in a small quantity well, such as a residential well. The law, Public Act 177, also authorizes the department to assess fines, reimbursement to the state for

administrative costs, and compensation to impacted wells.

Before the law went into effect, the irrigators sought agreements with residents to pay for new wells. According to Allen, ten families entered into these agreements for new wells, but the farms were not required to reimburse the residents who had already installed new wells.³⁶

Allen believes that the conflict resolution law has made a difference. However, Allen admits that much more needs to be done to regulate water use in Michigan. The law only applies to large users impacting smaller users, or wells. It does not address impacts to natural resources or property. The law also remains untested in drought conditions, and the current funding for this program is likely to be inadequate to enforce a substantial number of water conflicts resulting from a drought.

Lessons Learned

The conflict resolution law is certainly a step in the right direction to resolve water problems after they occur, but we also need to prevent water conflicts from happening in the first place. This situation could have been prevented if Michigan had laws requiring large water users to adhere to standards that protect natural resources and other water users.

In addition, our state should require agricultural interests to report water use with the same degree of accuracy as other users. While groundwater users in Michigan with the capacity to withdraw more than 100,000 gallons per day must register with the state, including the location of their well within 15 feet and the amount of water used, agricultural users do not have the same reporting requirements. Better reporting information would help to resolve water conflicts more quickly and effectively. Water laws that stop problems before they happen would prevent water conflicts, such as those in Saginaw, from occurring.

Case Study:

Oakland County Ponds Drained for Gravel



“If this had not happened to me, I would probably be like the majority of people in Michigan who think that we have plenty of water.”

—Mark Shaffer, Groveland Township homeowner³⁷

Mark Shaffer, a regional sales representative for an automotive supplier, had an all-American dream to build a nice home for his family in a wooded area of northern Oakland County. In the late 1980s, he bought five acres of land near Holly and the Renaissance Festival grounds. Like many other homes in the area, and as his father-in-law had in the 1950s, Shaffer created a pond on his land behind where their home would be built. In 1989, the house was finished and a deck overlooking the pond was added. Schaffer had no idea that he would enter into a battle to protect his pond and the water resources of his community.

For ten years Shaffer and his family enjoyed their new home. In the summers they barbecued and hosted parties on the deck and swam in the large pond. During the winter, they ice skated. Then in 1999, the water levels in the pond started to drop. They had dropped by three feet by summer of 2000. Not knowing what was causing this decline in water level, Shaffer dug an agricultural well to fill the pond in 2001 and water returned to within a foot of the original water levels. Then, that same summer, the water started to drop more rapidly, even with the well pumping. Within a month, the pond was completely dry. The Shaffer's were left with a hole the size of a football field in their backyard. "It happened so quickly it was like someone had pulled the plug in the bathtub," said Mark Shaffer. "We knew there was something drastically wrong."

The Fight for Water: A Stroke of Luck

When Mark Shaffer bought his land, he was aware that a gravel pit was operating just 300 yards away from his property. For over 35 years while the gravel pit was in operation, there had been no problems with water in the area. In 1999, when a new owner purchased the gravel pit, its size was doubled and it increased the pumping to

keep the pit dry. Gravel mining often cuts into aquifers, or underground lakes. The least expensive way of mining for gravel is to use high-volume pumps to keep the pit empty of water.³⁸ Shaffer's brother-in-law, a pilot, had noticed the growing size of gravel pit during his flights and suggested that Shaffer look into it as the source of his problems. Sure enough, Shaffer found that the gravel pit was piping out water in a stream ten feet wide and three feet deep.

Shaffer started asking questions to his neighbors along the gravel pit, and discovered that all of them had experienced water shortage problems over the past few years. At least ten families had to dig new residential wells or have the pumps reset to deeper levels. Shaffer and about 17 others formed a group to solve their problems.

Through constant pressure from the residents group, the township ordered the gravel pit to hire a hydrogeologist. Instead, the mining company, Midway Sand and Gravel, hired Dr. Steven Wright, a civil engineer, who had also been hired by London Aggregates and had claimed that the mining in Monroe County was not causing the well problems. The USGS study has since refuted this claim. In this case, he reported that while the gravel pit was impacting the groundwater table, its impacts were minimal.

Shaffer went to the consulting firm Malcolm Pirnie, Inc. to inquire about a hydrological study to determine whether the gravel pit was causing the water shortage problems. Studies of this kind are normally prohibitively expensive to commission, costing around \$50,000 to \$100,000. Malcolm Pirnie offered their services for a paperwork fee of \$2600. The study concluded that the gravel pit was extracting 2.5 million gallons of water per day, lowering the water table, and was the source of the community's water problems. Once given these results, the township supervisor hired a firm to do their own study, which also concluded that the gravel pit was the source of the problems.

The citizens, township, and gravel pit entered into agreement to alleviate the problem by following a recharge plan set forth by Malcolm Pernie. A mid-term project report found that the gravel pit was not following through with the agreement and the recharge effort failed to work. What ended the water problems was chance. During all of this, Shaffer had met an official with the Department of Natural Resources (DNR) and told him about the mining operation. It turned out that the mining company was discharging the water onto land owned by the DNR, without its permission, and was causing erosion and other problems. The DNR ordered the company to stop discharging onto their land. There was no alternative location to discharge the water, so instead of wet mining, the mine reduced its pumping and operated for another year and a half. Today, the gravel pit is a lake, and the area is in the process of being zoned as residential, likely as the center of a new housing development.

Lessons Learned

Once the gravel pit stopped pumping, water immediately started to return in Shaffer's pond and to their neighbors' wells.

But there are still lingering problems. The water in Shaffer's pond is now a reddish color, and he has to use environmentally friendly dye to turn the pond to a more natural looking color. He hopes that this problem will lessen over time as the aquifer is restored. The damage to his land is permanent. They have lost fifteen trees around the pond. Sink holes, some of them ten feet across, have developed all over their property, which was once very smooth around his pond. It would cost between \$10,000 and \$20,000 or more to get his property returned to the state it was before being damaged by the gravel pit.

If Michigan had water use laws in place, damages like those described above could have been avoided. If the mining company had been required to consider its impacts to inland water bodies and residential wells, and perform studies prior to pumping, it would have known the impacts of the increased water use. If there was a conflict resolution law for environmental impacts, Shaffer and his neighbors would have had a way to resolve this conflict quickly and they could be compensated for their losses. Without water use laws, Michigan citizens are forced to pay the price for irresponsible water use, which many cannot afford.

"We have taken water for granted," said Shaffer in *the Detroit News*. "We need a law that says you cannot site a well and you cannot pump any water until you've had an environmental study, and it was done by a reputable company."³⁹

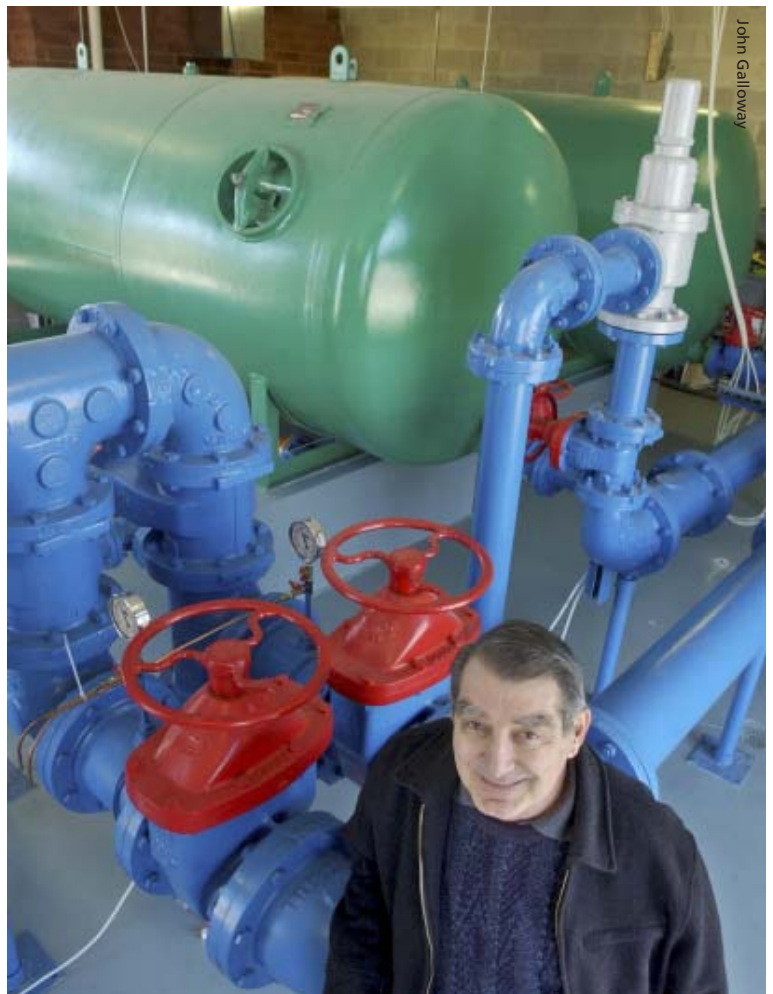
Case Study:

Private Sale of Water in Livingston County

“One hundred and fifty years ago, we had a resource in the Great Lakes region that was considered inexhaustible. It lasted barely two generations. This was the White Pine forest. The White Pine of this century is water.”

—Frank Ettawageshik, chairman of the Little Traverse Bay Bands of Odawa Indians

George Bacalis, a developer, tapped and sold a public aquifer to three townships in Livingston County.



In 1995, while digging for a community water supply for a subdivision in Green Oak Township, developer George Bacalis, head of Artisan Building Co., discovered a large aquifer now considered one of the most prolific in the state.⁴⁰ Bacalis drilled wells on the property to tap the aquifer and chartered a private corporation called the Livingston Community Water Co.

Bacalis approached local townships where there had been some need for nearby water sources.⁴¹ He encouraged them to form a water authority, offered to sell his water company to them, and then negotiated for top dollar. The deal included 4.3 acres of land, the pumps, and pumping facility. In January 2003, Green Oak, Brighton, and Hamburg townships purchased Livingston Community Water Co. from Bacalis for \$3.1 million.⁴² This is equivalent to \$55 per person in each of these townships for a one-time acquisition of water that was rightly theirs to begin with.⁴³

George Bacalis' business deal demonstrated that water prospecting is a real threat to Michigan without stronger water use laws. There are no applicable regulations preventing a private entity from claiming ownership of water supplies in the future, and foreseeable shortages of freshwater make such an occurrence a virtual certainty. Using newly created state

groundwater maps, private companies could locate the most prolific aquifers in the state and purchase the overlying land above it for the express purpose of selling the water for profit or competing with public water utilities at the expense of municipalities and taxpayers.

It is well known that water is critical for survival. In a state with numerous complex aquifers that connect groundwater with surface water, it is impractical for individuals or private corporations to claim exclusive ownership or use rights to a groundwater aquifer. Indeed, as has been recognized for some time in Michigan, water is a public trust resource, held for all the people by the State in "perpetual trust to secure to the people their rights of navigation, fishing and fowling."⁴⁴

To protect our waterways and maintain their protection under the public trust doctrine, our state should require legislative approval for the private sale of water, especially for the establishment of a private water utility or if it is to be diverted outside of the Great Lakes basin. Approval should only be granted if the use serves a public purpose other than simple profit and if it can be determined that such use does not harm the waters or infringe on the public trust. Finally, the user should never be given title to the water, only permission to use it.

Schemes to Export Great Lakes Water

In 1998, Nova Group, a Canadian-based consulting firm, attained a permit from Ontario to ship 156 million gallons of water from Lake Superior to arid regions of Asia.⁴⁵ Fortunately, strong opposition from citizen organizations, public outcry, and intervention by Michigan's Congressional delegation convinced the Ontario Ministry of the Environment to cancel the permit, although the permit was not illegal. However, as the demand for fresh water increases, this is hardly the last attempt to access Great Lakes water.

As water becomes scarce across the country and around the world, other regions are eyeing the Lakes as the answer to their needs. Currently, one billion people in the world do not have access to clean water, and this number could reach seven billion by 2050.⁴⁶ As surely as oil and gas pipelines now crisscross the continent and ships carry oil across oceans, the prospect of Great Lakes water being siphoned off and sent to parched regions of the world is far from remote, whether by ship, truck, pipe, or bottle.

In fact, this year the City of Ewart, located just thirty miles north of the water bottling facility in Mecosta County profiled previously, entered into agreement with Nestlé to sell a portion of the town's municipal water to the company. If approved, as much as 168 million gallons of water per year could be shipped by tanker truck to the bottling facility in Mecosta County and then sold across the region, setting a dangerous precedent in the conversion of a public water system to private ownership and the export of Great Lakes water resources outside of the basin.

In response, in May Governor Granholm set a moratorium on all new or increased bottled water operations in Michigan until the legislature has passed laws regulating large scale water use.⁴⁷ Her administration granted Nestle Waters the Safe Drinking Water Act permit it desired to use Ewart's water, but required that they do not sell the water outside of the Great Lakes basin. Nestle has since filed a lawsuit challenging this decision and the Governor's very authority to stop out-of-basin diversions under the federal Water Resources Development Act (WRDA). WRDA, passed by Congress in 1986, gives every Great Lakes governor the authority to veto any proposed diversion of Great Lakes water.

If WRDA is struck down in court and we do not have state laws regulating water withdrawals and requiring approval for diversions or private sales of water, there would be no legal defense against the exportation of Great Lakes water to thirsty states or foreign lands. WRDA is also vulnerable to being revoked by a Congress whose powers are following the population shift to the arid Southwestern states. It is more urgent than ever that Michigan take strong legislative action to prevent diversions and the private sale of water.

Conclusions and Recommendations

As a result of Michigan's water free-for-all, the unrestricted use of Michigan's water is not free for everyone. Michigan citizens and natural resources are footing the bill for irresponsible and unregulated use of our state's water. Whether they had to pay thousands of dollars to dig a new well or buy water to run their household, spend a million dollars in a court battle to protect their lakes and streams from being sold out from under them, stop fishing in their favorite stream because it has been impacted by large users, or spend their taxpayer dollars to buy water from someone who has claimed to own it, Michigan citizens are paying dearly.

To prevent these problems from continuing, and to protect our water for future generations, Michigan needs to pass comprehensive water use laws. PIRGIM recommends the following legal provisions:

In order to use large quantities of Michigan's water or to draw from sensitive waters, a user must demonstrate:

1. *No Adverse Impacts on Natural Resources*

- Demonstrate that a withdrawal will not result in any adverse impacts either individually or

cumulatively to the quantity or quality of waters and water dependant natural resources of the Great Lakes Basin.

2. ***No Alternatives*** – Demonstrate that needs cannot be met through conservation of existing water supplies and that no reasonable water supply alternative exists within the watershed that could meet the water needs of the proposed user.
3. ***Conservation*** - Demonstrate that all applicable conservation measures have been implemented.
4. ***Improvement*** – Demonstrate that the proposal will result in an improvement to the waters and water dependant natural resources of the watershed.
5. ***Water is Returned (Return Flow)*** – Demonstrate that the maximum flow of water from the proposed diversion will be returned to the watershed of origin.

Moreover, the state needs to:

- **Stop the diversion of Great Lakes water.** Prohibit the private sale and diversion of water unless the project

has received legislative approval, including all private water utilities, and any other facility for private sales where 98% of the water does not remain in the Great Lakes basin.

- **Establish public process for vetoes of Great Lakes diversions.** The Water Resources Development Act (WRDA) authorizes the Governor to veto out-of-basin diversions, but we do not have a process to include public input in these decisions, or a system of review. Michigan should adopt a public process, such as public notice and a public hearing, for WRDA decisions.
- **Improve data collection.** Currently, agricultural interests do not report with the same degree of accuracy as other users, making it difficult to determine the cause of water conflicts

or impacts on natural resources, and diminishing the usefulness of our state's investment in mapping of groundwater. All water users in Michigan should report with the same level of accuracy.

The Great Lakes are Michigan's most precious natural resource. But instead of safeguarding our waterways for future generations, we have been taking our vast water resource for granted. As a result, the largest water users have been getting a free ride while Michigan citizens pay a heavy price.

Michigan needs to start acting like stewards of our freshwater seas and pass laws that protect our citizens, our lakes, streams, wetlands, and the Great Lakes, and ensure that we will have water to serve our needs into the future.

Endnotes

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