

## **The Battle at Battle Creek**

*an ongoing fight for the right to public health information and war against corporate accountability*

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On June 26, 2010, a pipeline maintained by Enbridge Energy Partners ruptured at the Talmadge Creek, which feeds into the Kalamazoo River, leaked nearly one million gallons of oil, affecting approximately 25 miles of water and shoreline. Although the immediate response effort by Enbridge has long wrapped, the tangible cleanup efforts and the intangible suffering continues in the Battle Creek and Marshall, Michigan areas. Two months after the oil leak commenced, I visited the northern U.S. area to talk with both residents and business owners about their experiences with the oil spill, including the economic, social and health effects of the aftermath. After gathering data and following up with local residents for a year, long after the investigative media had waned (and was, by comparison to Deepwater Horizon, nearly non-existent); this is still very much an existing and ongoing battle between the residents and corporate accountability and, more frightening, between residents and the human right to public health.

The following is an ethnographic view of a vulnerable community in need, one of many across the United States, due to neglect of corporate accountability and social and economic programming shortfall, both of which should not be acceptable in a democracy. Although participant observation and interview lack the epidemiological data to prove a prevalence of health issues in a community, through this paper, the overall picture of the socioeconomic vulnerability of Middle America should be abundantly clear.

Even though I make some comparative observations about the Michigan crisis to the Gulf, I wish to note to my Gulf colleagues, that the suffering across the Southern United States is no less important, and my social study on the Deepwater Horizon aftermath is forthcoming.

\*Where noted, names have been changed or abbreviated, unless given express permission to print.

### **A Community in Crisis**

Walking over the foot bridge on the Kalamazoo River in Battle Creek, Michigan, the lush foliage shades the embankments and beckons to fisherman and recreational boaters. At least that is what local residents used to count on, as they have [settled in this area over the past two decades](#) or more, opting for the economic benefits of living farther from the big cities and in the comfort of a smaller town. There are favorite spots for pizza and mini golf, and in these neighborhoods, the kids ride their bikes and play outside until dark.

Along this portion of the Kalamazoo, however, the feeling of contentment and personal safety is now gone, along with the future hopes of many of the local residents who call Battle Creek their home. Investments in “mom and pop” shops are now obsolete and many of the local children are now ill. The shadows of the embankments hide boons saturated in oil, sheen washes through the ripples as it flows down river, and residents smell the stench of tar in the air. The mini golf place is sparse with the customers and residents say they are too sick to enjoy the pizza, or anything.

## Summer 2010

As with my study at the Gulf of Mexico, I began to look at populations threatened by the oil spill in Michigan. Although human health is my predominant interest, it is clear that the first people to reach out to me were those concerned with animals. My first contact in the Michigan was with Circle D Wildlife Refuge, the initial organization involved in animal rescue after the oil spill. Unlike with the Gulf of Mexico oil spill, there was no mass mobilization or rescue plan immediately implemented for wildlife along the Talmadge Creek or Kalamazoo River. Counting solely on local, residential volunteers and donations, members of the refuge rescued dozens of geese, ducks and other fowl from local waterways. Marsha S., a rescue worker, shared with me that the initial response from the [cleanup responders](#) (Enbridge, EPA and Michigan State) was that there would be no real effort on the part of local wildlife management to help with geese, the initial threatened species, and that many geese were left to die or, found dead, their bodies were simply dumped because “domesticated geese” were considered a nuisance and not part of a wildlife rescue plan. This did not go over well with animal rights and rescue activists who, like Circle D, decided to take it upon themselves to go out in small boats and rescue wildlife themselves. After rescue workers were threatened by Enbridge cleanup personnel for violating cleanup zoning, wildlife advocates pushed harder for a response, noting that nothing was being done for either oiled turtles or sick waterfowl in the area. In late August 2010, [Enbridge sent press releases to MarketWire and Yahoo Finance](#) to advertise that the press and general public were invited to see their new wildlife rescue station.

Circle D was able to pass along my name to other affected residents, and I began to make contact with several in the area via Facebook. Emily M. reached out to me to share that she was concerned about the transient population that lived along and under many of the bridges along the creek and river, who survived off of the fish they caught along the river and bathed and drank the river water. “I know that many transients live(d) near the bridge. Also many homeless, low income, and other people fished off that bridge (and small nearby park) for food. So be aware that there a lot of undocumented people that are also being affected by this disaster.” I spoke to several others who knew about these and other vulnerable populations. There was a man who had lived under a creek bridge, and another by a tunnel along the Kalamazoo, as well as countless families who lived in mobile home communities and farms situated along the water. I began to build a list that would include talking to at least one representative from each of these communities who could share with me their experiences with the oil.

By the time I began speaking to residents, I found out that word was getting around that Enbridge was reimbursing residents and business owners for economic loss due to the oil spill, yet there was some confusion as to who was eligible and what process to follow to seek a claim. Residents told me that there was a “tier system” for eligibility for expenses from hotel reimbursement (for temporary displacement due to the cleanup efforts) and medical reimbursements, to [full buy-outs of homes and properties affected by the spill](#). I was also told by many residents that Enbridge’s corporate representatives were being dispersed into the towns to talk to claimants, pressuring and spouting legalese, threatening, scaring and taking advantage of especially the most financially desperate. Incidentally, after receiving multiple complaints, the Center for Public Integrity [asserted that Enbridge may be coercing citizens into signing waivers of liability](#), this allegation was later investigated by the House Transportation and Infrastructure

Committee. Although Enbridge insists that their various forms were a normal and necessarily formality, the process was extremely confusing and not as straightforward to residents as Enbridge asserted to Congress. Legal jargon was particularly difficult for residents of lesser education, and residents were discouraged from seeking legal aid. Enbridge later suspended the use of the various forms upon this suspicion of [deceptive and bullying tactics to force residents to sign buy-outs and accept settlements](#). However, residents' difficulty seeking information and relief from Enbridge continued.

Shawn C. shared that his aunt and uncle lived directly on the Talmadge and were offered a buy-out of their property. Although unsure of the exact parameters, he said he believed the buyout was being offered way under value. Many of the local farmers and business owners had spent generations building up their properties and agriculture, but the oil leak now devalued all of the properties. However, lush farms would now soon be environmental wastelands. The solution would not be as simple as picking up and starting over elsewhere. These were, predominantly, blue-collar families, in an economic downturn, in one of the hardest hit states in the nation. Thus, began the picture of a great disconnect between the corporate solution and reality and the overzealous offer of the dollar to a vulnerable population.

### **Out-of-the-Loop and Afraid**

By late summer 2010, residents began posting on Facebook and other social forums that they were feeling sick. Health concerns seemed to be taking over discussions about financial issues related to the spill, and a few important grassroots spokespeople began to emerge.

Residents like Jan M., shared that the demographic of the affected area, compared to other cities in Michigan, was lower income and less educated, with concern that ailing residents may not be able to afford specialized doctors or know how to find public health information. "People may not be aware of what hydrocarbon toxins can do to the human body, immediately and long-term," voiced Jan M. "People are going to get sick for a long time." Clearly, the transient population would be among these citizens, and there were many others. Another local resident, Janeine D. echoed the same, sharing that some people moved temporarily because the smell was "giving them headaches" but that some people could not because they could not afford a hotel.

Even though "ground zero" of the oil spill was in Marshall, I began to hear from more residents of Battle Creek. Marshall was being attended to by the Enbridge cleanup and the [Environmental Protection Agency \(EPA\)](#) but Battle Creek residents were feeling largely ignored, being given the run-around or feeling like they did not have as much information as Marshall residents were being given. Much of the Marshall waterway area was in the Tier 1 evacuation zone and had already relocated to hotels or permanently moved. Marshall residents had access to an Enbridge claims office and additional health facilities. Only a secondary leak area, those in Battle Creek, along the Kalamazoo River, weren't being placed on the same level of importance as those in Marshall, and residents were becoming afraid.

Several residents in Battle Creek travel to Marshall to work, so they were able to get a sense of the cleanup efforts and talk to the officials while in town, but for those who reside and work (or are unemployed), there were no such options. Indeed, the [median income and education level](#) of

this area is indeed lower than greater Michigan (see chart below). While that would not typically matter in the scheme of every day life, the discrepancy seemed to make a big difference in this disaster. Lack of transportation, lack of Internet access, lack of private healthcare and lack of alternate forms of income created an even greater vulnerable population in Battle Creek, and their secondary location to the spill site created an unfair and unforgeable disadvantage.

| Economic Characteristics                             |          | Battle Creek city, Michigan |           |
|--|----------|-----------------------------|-----------|
| Median Household Income                              |          | \$35,491                    | \$44,667  |
| Per Capita Income                                    |          | \$18,424                    | \$22,168  |
| In Labor Force                                       |          | 61.1%                       | 64.6%     |
| Families below poverty level                         |          | 10.7%                       | 7.4%      |
| Education Characteristics                            |          | Battle Creek city, Michigan |           |
| School Enrollment                                    |          |                             |           |
| Elementary Enrollment                                | School   | 6,653                       | 1,225,217 |
| High Enrollment                                      | School   | 3,017                       | 597,056   |
| College or School                                    | Graduate | 2,397                       | 635,836   |
| Educational Attainment Population 25 years and older |          |                             |           |
| High Graduate  | School   | 32.8%                       | 31.3%     |
| Associates Degree                                    |          | 8.0%                        | 7.0%      |
| Bachelor's Degree                                    |          | 11.5%                       | 13.7%     |
| Graduate Professional Degree                         | or       | 5.7%                        | 8.1%      |

Data provided by the 2000 U.S. Census

One of my most important contacts, a proactive resident in Battle Creek, Michelle BarlundSmith, concurred. She and fellow resident Anna Oberlin, spent the next two days sharing details over the ensuing “battle” and showing me some of the most ignored and oil-saturated residential areas in their community.

“Residents are not being told enough information, and they are afraid,” Anna started off in late August 2010. They had tried to contact a number of professionals in the area to try and develop

advocacy for their cause without much luck. “We have problems with our property, health and the local government,” she shared, and we have many helpful leads but a major lack of action. There was talk about a possible pro bono lawyer who might take on the cases of those adversely affected (it fell through) and Congressman Mark Schauer who, on the cusp of re-election, was trying to make the tough choice (as was also seen with Gulf political) between corporate constituency or residential. Although he did make an effort at helping many of his constituents, he lost the re-election, so that hope was only temporary and, according to Michelle, now gone.

Most of what residents have had to say to local government officials fell upon deaf ears, said Michelle and Anna, although they received attention from the EPA, who came to their neighborhood with instruments to test for benzene levels and, along with the health department, assessed to some level, the exposure levels in the community. “The EPA has been to our neighborhood a few times,” said Michelle, “and they will talk to us when we see them.” Any information shared by the EPA has been welcomed, she continued, but not enough, because residents do not know what to do with it. “We have elevated benzene in our area, but what does that mean [to the average resident],” shared Michelle. She felt that the best way for me to understand the vulnerability in her neighborhood was to see both the affected areas along the creek and river, but to also meet some of the residents first-hand in their homes. Residents are indeed being treated at a local clinic for diagnoses such as “hydrocarbon exposure,” “hydrocarbon poisoning,” skin rashes and headaches. Michelle continued, yet there has been little proaction on the part of Enbridge or the government to relocate those who are and continue to be the most vulnerable. We spent the next two days visiting the affected areas along the Talmadge Creek, Kalamazoo River and the populated, oil-stenched communities.

One of the affected mobile home communities is set back approximately 200 feet from the Kalamazoo River. Although the river is a secondary cleanup spot (since Enbridge attempted to dam the outlet to the river from the Talmadge Creek), the smell of oil and certainly the visible oil was and is still very evident. Resident Michelle BarlundSmith said that many community residents began seeking help to evacuate immediately and learned that evacuations would be only according to a “tier system.” George C., a mobile home resident, showed me that his backyard was, basically, oily mud (see photo on next page). However, even with visible oil and sludge, living in close proximity to the Kalamazoo, he and other residents with similar proximity or visibility were told that they were a lower priority tier (Tier 4), regardless of any other conditions.

One problem, both Michelle and George shared, was that the residents were unsure exactly how the tier system worked and had been trying to get someone from the Enbridge office to explain it and “were blown off.” One lead they received was from the EPA, which via a representative said that Tier 4 homes, such as George C.’s, may be “decontaminated” or “cleaned” versus replaced or moved, but there was a process and waiting list for that as well. Decontamination was, as it was explained, a procedure where the inside and the outside of the home would be sprayed down in some way, but this process was also not clear. Along with Michelle, I researched various hazardous materials procedure for oil decontamination of waterways and ships, but I did not find anything about home decontamination. This decontamination procedure was flawed, since visible oil was not the only problem and a “car wash” would still not solve the issue of

consistently permeating fumes via windows, doors and other unsealed areas of the home. “It’s a run around, over and over again,” said Michelle.



Oil striations in George C.’s backyard. Source: Eden Potter

More disconcerting is that George C., and other similar residents, had preexisting health conditions that Michelle was trying to bring to the attention of Enbridge and government officials. George C. was a cancer patient, and they were concerned about his declining health and compromised immune system. Via EPA representatives, he was promised to be placed higher on the list, possibly move him out and relocate his trailer, but it never happened. George C. passed away nearly a year later, earlier this summer.

To make matters more difficult, residents were told that claims would soon need to be made in person, in Marshall, approximately 20 miles away. Quite a few of the most vulnerable residents do not have cars, internet, telephones or money for taxis or buses. Many gave up. In fact, the financial issues for those already struggling as the entire country (and in particular, states like Michigan) began to feel the national economic decline was already a big worry. I spoke to a small business owner whose property was suffering damage from oil as well as the cleanup infrastructure. Many of the hotels were already booked between Marshall and Battle Creek with cleanup workers and displaced or temporarily removed residents, so at least one of the major events of the summer that Battle Creek businesses count on for annual revenue was a bust. There were no hotels available for visitors and, with the intermittent news of the oil spill, many were just staying away from the area. The closest hotel that I found available for my stay was in Kalamazoo, nearly a half hour away.

One frustrated business owner, whose property was also badly damaged by oil and sludge, was having her own issues with Enbridge. After trying to file claims for both losses to property and business, Enbridge sent out insurance agents to find ways to debunk the financial loss. They asked for two years worth of financial ledgers, trying to prove that there were other lulls in business that could disprove her claim that oil was the reason for the sudden decline in business. When it became apparent that Enbridge may not clean up their property, the business owner contacted the bank about a second mortgage on the property to cover cleanup expenses, and the bank refused. Due to the extensive oil damage, further investment in the business was no longer a good risk. There would be no other useable collateral accepted for the business. Having spent all of their life savings on the business, which was also meant to provide future financial stability for their children and grandchildren, the business owner and her family have no other means to clean up their property, nor can they sell it. The bank told them that this latter option would be next to impossible because, in cases of oil or other environmental damage, the property would have to be thoroughly cleaned and then pass a series of environmental inspections to gain the property certifications necessary for a resale. Without the means to clean up the property, neither environmental certifications nor recovery in business will happen. My photojournalist walked the recreational portion of the property during my interview, and upon her return, her tennis shoes and bottom of her pants were saturated with oil. Even though open for business, the business owner was uncomfortable about allowing patrons roam too far out. "This has really hit our business hard," she said, extremely emotional and distraught. The idea that a corporation was trying to remove themselves from responsibility of cleaning up oil from their spill, which was clearly not there before, was criminal.

Early on in the oil spill cleanup, Michelle BarlundSmith said that the overall picture was not so bleak. There seemed to be some promise that residents concerns would be heard. At their first town hall meeting, residents say that flyers and forms were disseminated, making residents feel that they were "on the list" for claims and relocation. After the next town hall meeting, however, they weren't so sure. The public health department and Michigan state epidemiology offices passed out questionnaires but they were not given any follow-up. Michigan State did launch a health study, which I will explain later, but no one was personally contacted regarding their health issues. Health clinics told residents, particularly those on medical aid plans, that there was no budget for oil-related health issues, although residents did receive basic treatment. Yet, treatment was only possible, as is often the case, for people who travel to the health clinics. Michelle BarlundSmith was most concerned about the number of nearby residents who were "shut ins" and unable to be treated because they did not or could not travel. This problem is an obvious shortfall of lack of governmental public health plan, whether municipal, regional, state or national, in a disaster. Certainly, the oil corporation had no intention of making the situation their own. "In our community, we have residents who are elderly, have cancer, have COPD, are handicapped, will not leave their homes [to fill out forms], and some who won't even answer their door [if we come to them]," said Michelle. Ironically, a disaster response was offered for local pets, which could be temporarily housed at the local National Guard, but resident's calls remained unanswered, with the exception of the occasional buyout.

As I toured the mobile home community, several residents told me of the Enbridge's early buyout scheme, being offered buyouts of their mobile homes or settlements of a couple of hundreds of dollars [with the agreement that they would not seek additional claims or be party to

any future class-action suit]. A few hundred dollars or even a few thousand dollars is not enough to purchase a new home or a parcel of land elsewhere, and residents who signed too early have had to deal with latent health issues (and medical bills) later. One resident who accepted an early settlement from Enbridge told Michelle BarlondSmith that he was ashamed to have taken the money, but it was necessary [to provide for his family]. Several of the residents with recurring problems were told they would be taken care of, like George C., but at the time, they were informed that Enbridge's response was on Tier 1 and 2. George and others in the mobile home community were Tier 4. The vulnerable population of this community, whether it be from lack of income to relocate, close proximity to oil still not cleaned up, or those with pre-existing health conditions (or developing, severe health problems), were told they just had to wait.

Michelle BarlondSmith mentioned that fear of a better offer "not" coming their way was also why both Battle Creek and Marshall residents were jumping at any initial offers by Enbridge. They were afraid that it would be their only option. According to investigations into Enbridge's early tactics (as mentioned previously), this was not unfounded. Michelle said that as a concerned citizen, she had quickly educate herself on everything from the health effects of hydrocarbons to the environmental hazards of oil sands, and that she no other choice but to step up and be a voice for those who were unable to or afraid to speak out on their own. Taking matters into her own hands, Michelle called the Enbridge office and asked officials why some people were being offered amounts, some as low as \$257, for their mobile homes when they were told that buy-outs would be at original market value and she was told that residents were being dealt with on an individual basis [and that she would not be privy to information to assist other residents]. Michelle said they took down her name and phone number, but no one ever called back. This "market value" was another deviant Enbridge tactic, Michelle surmised, and that was also quickly substantiated by fellow resident and business owners. After an oil spill the value of a property is greatly diminished, so Enbridge's angle here was to offer the residents "anything" with the justification that they would not be able to sell it to anyone else higher anyway. This justification led many residents to settle for grossly diminutive amounts.

This disadvantaged population was just one of two mobile home communities and surrounding areas that were being taken advantage of by an intimidating and, of course, impersonal corporation and powerless local government. So many other people with very similar demographics were severely affected from elderly locals to transient community and farmers living on oil-saturated land. Unlike the Gulf spill, the oil was not delegated to one area, predominantly remote from immediate residential areas. This is not to say that the effects were not as environmentally or personally devastating to a large population, noting the tourism industry, the local fisherman and the countless others fearing for the survival of the Gulf. But soon, the Enbridge oil had traveled everywhere and in areas that were difficult to clean and not in the planned cleanup area. The idea of oil sands was introduced, and it was soon found that waters that were deemed to be clean a year ago are now compromised. Residents were concerned about the health of their drinking water, and some are fearful that although testing may be done on municipal water systems, those on well water may prove contaminated. There is no information about how to test, mentioned one neighbor. What was worse, the public health service was not wide-reaching and people did not seem to "know better." Signage about staying out of the water was lacking or largely ignored and children were still playing in the water. I saw a man fishing in the Talmadge Creek from his dock, perhaps not knowing the oil-infected fish



could be harmful if ingested or perhaps out of necessity for food. The health implications of this lack of public health knowledge were alarming.

### **The “Not Knowing”**

Although I was told by both residents and volunteers with the wildlife refuge that the cleanup efforts not only involved oil removal (through soaking via booms and nets, filtering and hauling away oil, it also included filling affected areas with dirt and sand, simply covering up the oil. As was also found to be the case with Deepwater Horizon, where oil striations can still be found two feet deep into the sand, where oil soaked sand was covered up, and when more washed onto the shore, was covered again, residents were unsure how covering up the problem was the same as cleaning it. Anyone who is familiar with groundwater and groundwater aquifers may agree that throwing dirt on oil and packing it down may not be the best solution. Since dirt is permeable, oil could find its way back into “the system,” whether it be agricultural soil, municipal, rural or well water or where it can affect wildlife. What was not known was whether this cleanup was following (or would soon follow) a typical EPA cleanup protocol, where a liner would be put in and the area filled and sealed with concrete or another, more permanent, plan. Despite reaching out for answers, the residents simply did not know why boil water warnings were lifted and why, by early fall, Enbridge was pulling out.

As I traveled through Marshall to see the oiled areas, the containment and cleanup areas and the “quarantined” streets, I also took notice of the number of cleanup workers and the ethnicity of the workers, and watched for other areas of concern. I spoke to several “gatekeepers” who said that although none of the workers had been chronically ill, they had had two workers in the emergency room the night before with heart-related illnesses. As with other cleanup disasters, there was probably not a plan for this population either, those constantly exposed to crude oil and, possibly, extremely toxic dispersants. At the Ceresco Dam cleanup site, there was a first aid station for minor issues, and several of the workers said we could drive through and look but they were not allowed to answer questions. The cleanup workers were extremely friendly and approachable, and we did not have issues with Enbridge personnel except near “ground zero,” where we were told we could not stop or take photos. Several residents, however, were hanging out on their porches along the Talmadge Creek and near the dam watching the cleanup efforts, as kids played in the yards. One resident was selling produce picked from his farm, which lined the creek. At one point along the Talmadge, the water was gone and only muddy sludge remained, being removed by large equipment into giant metal containers. There just seemed to be this great discrepancy between the obvious cleanup of disaster and what was appropriate health behavior. Why were people subjecting themselves and their children to breathing and ingesting oil? Was it lack of public knowledge, indifference, moral justification or curiosity? Why drives a worker to be a part of a lengthy hazardous material cleanup effort? Job security, financial needs or lack of available health information on the long-term effects of hydrocarbons?

In fairness to the effort and how colossal an operation it must be, by late summer, the Michigan cleanup effort was very visible and, likely according to Enbridge’s estimates, rather thorough. There were dams, booms and markers everywhere, and hundreds of workers had temporarily relocated to hotels in Calhoun County. The containment system seemed well organized and well marked, and the effort was around the clock. Despite radical criticism, I saw the same efforts by

BP in the Gulf. It wasn't as though oil was dumped and then vastly ignored. In Marshall, there was a disaster headquarters where the EPA had set up office, and an effort was clearly being made to keep HAZMAT materials sealed and shipped off-site. The organization was visibly impressive, and it was clear that there was a rigid protocol. Many residents noted it as well. The concern, however, was that the most intense cleanup ended too soon and was concentrated in only the Talmadge Creek area, largely dismissing the needs of the vulnerable communities downstream. It is likely difficult to project long-term problems, and corporations are notorious for downplaying and down-budgeting those issues. By late fall, Enbridge was ready to move on.

In September 2010, Enbridge announced that although cleanup efforts would continue that their oil spill containment and [main commitment was complete](#), yet residents like Michelle BarlundSmith asserted that the cleanup should be far from over, posting and sharing (via social media) photographs of pooled oil in inlets and saturated boons that have not yet been removed or changed. There was still a presence of oil spill workers [over the Michigan winter](#), which can be bleak with snow and ice, so efforts slowed again until spring. There is still a visible cleanup effort in Marshall and in some areas of the Kalamazoo at Battle Creek.

Comparing what I have learned between the Deepwater Horizon and Enbridge Oil studies, one major difference is clear. Although considerably more oil was dumped into the Gulf of Mexico, it was disbursed over a large area relatively far from any immediate residents or businesses. This oil disaster seemed to have great health implications, both short and long-term. Each study has its own unique attributes and problems, but upon viewing both disasters in person, one major factor stands out with the Enbridge disaster, and that is its proximity to human life. With approximately [843,444 gallons of crude oil](#) dumped into a relatively shallow and narrow waterway, over a distance that includes homes, farms and businesses, the health effects of this disaster are likely more significant than along the Gulf Shores. There is agriculture currently being farmed and sold from these areas, and there are farmers markets filled with produce, literally, one block from the Talmadge Creek in Marshall. If residents are not living along the oil, they may still be eating it.

## **Health Implications**

Michelle BarlundSmith agrees with the idea that residents are eating oil may largely be true, as some local Battle Creek residents were treated at local health clinics for “hydrocarbon ingestion.” Some of the lowest income populations continued to fish from the Kalamazoo during the cleaning process, and children often played in the water where it was thought to be safe. There was (and still is) much confusion over what is “clean” and still unsafe. Even after Enbridge announced that their main cleanup was finished in late September 2010, other tributaries, due to tar sand oil continuing to pollute beyond the initial containment area, were found to be [compromised](#).

Traveling through the Talmadge Creek, Ceresco Dam and Kalamazoo River areas, it was clear that many of the agricultural, farming and residential areas that were contaminated were not a part of the Enbridge cleanup. There were miles of fields and farm with oil seeping through their crops. We saw corn growing in oil, deer feeding on plants covered in oil, all miles from the nearest Enbridge cleanup spot. When we got out of our car in any of these areas, it smelled like

a gas station. During my brief stay in Michigan, my own health was taking a hit. I had gastrointestinal problems, nausea, headaches, and at one point during my interviews, I felt light-headed and off-balance. Residents living along these waterways, however, have been suffering from these symptoms and worse.

First reported during the summer of 2010, common health issues shared by the residents were and continue to be of a concern are:

- Lethargy
- Gastrointestinal problems
- Itching ears and skin
- Skin rashes and feeling of skin burning
- Skin lesions
- Red, stinging eyes
- Hands shaking and muscle spasms
- Feeling off-balance and dizzy
- Heart palpitations
- Nausea and vomiting
- Congestion of the chest and nose
- Excess phlegm
- Memory loss
- Headaches and migraines
- Respiratory problems and asthma

Michelle BarlundSmith and Anna Oberlin said that, according to a local health official, a 30-40% increase in illnesses in the area. “Decontamination” was taking place, which was essentially being placed on a heart monitor and be quarantined, for a time, in the hospital, and then released back to homes situated along the oil. Many residents have repeatedly returned to doctors, only to repeat the same process. Some residents have shared their discharge sheets (see photo on next page) from clinic visits, concerned that despite diagnoses that confirms hydrocarbon in their systems that nothing more proactive or definitive is being done to ensure their safety. Diagnoses range from hydrocarbon exposure to hydrocarbon ingestion. Some symptoms were also diagnosed as other ailments (unrelated respiratory problems, scabies or sinus infections) and many complaints were, eventually, dismissed altogether. Health problems have escalated to now include approximately [60% of the local population](#).

According to community advocates like Michelle, however, despite the increase in health problems in the area, many residents are reacting with indifference. Although there was an initial “panic” during the early 2010 summer, many mobile park families (many of whom are single mothers), for example, can no longer contain their energetic children indoors. The warmer months are always liberating for children, other residents add, and as the Michigan weather warmed from winter, more children began playing in the river, staying outside longer to ride bikes or play. With this increase in outdoor activity along the Kalamazoo, however, locals like Michelle noted an increase in children’s health symptoms as well, ranging from vomiting to lymphatic issues (swollen glands and, in one, a tumor). Although the most serious of these symptoms have not been “proven” to be correlated with the oil spill or cleanup dispersants

(Enbridge told residents they were not using any), many of the children were also diagnosed with hydrocarbon ingestion, quarantined briefly, and then released back into the community. There just seems to be a cycle of illness, clinic visits, quarantine, and discharge and around again.

**Follow-Up Instructions**  
[REDACTED] has been given these follow-up instructions:  
**Follow Up With:** [REDACTED] **Where:** [REDACTED] **When:** Within 1 to 2 days  
Marshall, MI. 49068  
(269) [REDACTED]

**Comments:**  
follow up within 1-2 days without fail for a recheck or return to the ER as needed.

**Prescriptions**  
[REDACTED] has been given the following prescriptions:  
No prescriptions were provided.

**Patient Education Materials**  
[REDACTED] has been given the following patient education materials:  
Family Medicine

### Hydrocarbon Ingestion

You have ingested a hydrocarbon chemical. Examples of these substances include gasoline, kerosene, turpentine, paint thinner, charcoal lighter fluid, insecticides, and liquid furniture polish. **Hydrocarbons can cause serious damage to your lungs, heart, nervous system, liver and kidneys.** You do not require hospital care at this time. You should return for further treatment if you have breathing problems or other problems.

**The most common problem is lung damage from the chemical.** Shortness of breath, choking, coughing, or gagging are signs the liquid went down in the lungs. Other serious signs include abdominal pain, vomiting, diarrhea, fever, confusion, or sleepiness. You should have someone with you for the next 24 hours to check on your condition.

**SEEK IMMEDIATE MEDICAL CARE IF YOU DEVELOP:**  
Fever, breathing difficulty, persistent cough, chest pain.  
Repeated vomiting, abdominal pain, dehydration.  
Unusual sleepiness, severe headache, confusion.

Document Released: 01/25/2006  
ExitCare® Patient Information ©2009 ExitCare, LLC.

Name: [REDACTED]  
MRN: [REDACTED]  
FIN: 0

4 of 4

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At least one resident lives entirely off of the Kalamazoo River near the mobile home community and, according to residents, his fishing and eating habits never changed, even during the summer of 2010 when saturated oil booms were visible, much like they are now (see photo on next page). Without any income or means to purchase food, financial relief from Enbridge, he and, likely,

others capture contaminated game to survive. Although “furious” with the oil spill, he said he decided to “get back to fishing and hunting,” so that he could eat.



Oil booms, Battle Creek, August 2011, Source: Michelle BarlundSmith

This moral justification is one of the internal conflicts often faced by vulnerable populations. Dr. Nancy Scheper-Hughes, a renowned anthropologist has studied such commonality in, particular, low-income women. The theory is that given an ethical or moral decision, that a person faced with a dire or mortal outcome, will choose to act in such a way that may not be correct, legal or moral but it is borne out of necessity, particularly one of survival. Paul Farmer, a medical anthropologist, also found this to be true among low-income populations in Haiti. People are willing to compromise their health to survive. They are willing to engage in dangerous health behaviors out of necessity, particularly when faced with a grave deficiency of public information.

In November 2010 (with revisions 12/20/2010), the Michigan Department of Community Health released its [“Acute Health Effects of the Enbridge Oil Spill” report](#), summarizing their study of the adverse health effects caused by exposure near the oil pipeline. Based on health care provider reporting, poison center calls and community surveys, it was determined that approximately 60% of the reported symptoms were oil-related, including headaches, nausea and respiratory symptoms.

According to the report, immediately following the oil spill, residents began reporting to both government authorities and healthcare providers various symptoms associated with exposure to oil and fumes and a health protocol was immediately launched, including door-to-door health

surveys and monitoring of calls. The findings of the Michigan report provide an overall picture of frequency of symptom reporting by date and the level of illness, with the majority deemed as moderate.

The frequency of type of clinical complaint was also shared, ranging from cardiovascular, neurological to respiratory, with headaches being the chief complaint (see table below).

| Frequency of Clinical Effect Categories in Health Care Provider Visits |       |      |
|--|-------|------|
| Clinical Effect Category   | Total |      |
|  | N     | %    |
| Cardiovascular   | 11    | 7.6  |
| Dermal   | 9     | 6.2  |
| Gastrointestinal   | 86    | 59.3 |
| <i>Nausea</i>  | 57    | 39.3 |
| Neurological   | 94    | 64.8 |
| <i>Headache</i>  | 83    | 57.2 |
| Ocular   | 23    | 15.9 |
| Renal  | 1     | 0.7  |
| Respiratory  | 68    | 46.9 |
| <i>Cough/Choke</i>   | 47    | 32.4 |
| Other  | 41    | 28.3 |

Source: MDCH Acute Health Effects of the Enbridge Oil Spill (11/2010)

Although residents in Battle Creek may not have been in the immediate surveillance area, according to Michelle BarlundSmith, their health symptoms were also documented and queried. However, the health surveys were voluntary and, as with many surveys, often do not result in a 100% response rate. The community surveys by the health department were no different, and in some areas, only 50% of residents completed the questionnaires (see table below).

| Survey Completion by Community                |              |             |            |         |       |            |
|---|--------------|-------------|------------|---------|-------|------------|
|   | Neighborhood | Subdivision | Spill Site | Village | Total | Comparison |
| Total Number of Homes Visited                 | 78           | 121         | 55         | 83      | 337   | 183        |
| Number of Homes that Completed Survey         | 45           | 75          | 37         | 44      | 201   | 51         |
| Number of Homes that Refused Survey           | 0            | 0           | 0          | 1       | 1     | 18         |
| Number of Homes with No One Home              | 33           | 46          | 18         | 38      | 135   | 114        |
| Percentage of Homes Surveyed                  | 57.7%        | 62.0%       | 67.3%      | 53.0%   | 59.6% | 27.9%      |
| Number of Individuals with Survey Information | 117          | 233         | 92         | 108     | 550   | 137        |
| Average Number of Individuals per Household   | 2.6          | 3.1         | 2.5        | 2.5     | 2.7   | 2.7        |

Source: MDCH Acute Health Effects of the Enbridge Oil Spill (11/2010)

This is a present and rising problem in communities that need healthcare or other basic needs outreach. Lack of individual proactivity is certainly an obstacle for any organization, governmental or NGO. Just as some residents may present false claims of injury, there are also residents who deal with disaster acting irrationally or, alternative, not dealing with the issues or

their surroundings at all. Michelle BarlundSmith says she has been surprised at the number of residents who have not been motivated to act, in any capacity, during this oil spill, especially those who are suffering from acute health problems. However, she has also seen an increase in mental health symptoms in her community, a problem that prompted her to seek help for several residents at a local mental health facility. “They didn’t help us,” Michelle reported, and she is still trying to find resources for a few residents who, in particular, are really exhibiting signs of stress over their declining health and lack of control. Increased alcoholism, feelings of despair and hopelessness, despondence, and more tangibly, hair loss, shaking, weight loss and anti-social behavior are all a rising issue among the affected communities.

Michelle says she has spent the greater part of the year going door to door, visiting residents, keeping track of their mental and physical health, hosting small meetings, paying close attention to residents who do not leave their homes, just to see if they are okay. With lack of a more accurate public health study, it is fortunate that many in the Battle Creek mobile home neighborhood have a community activist on the look out for changes in health, whether it is medical or mental. Otherwise, Michelle and others surmise, they may have been overlooked altogether.

According to Michelle, 80% of the mobile home community is one of the following:

- Low to no income
- Undereducated
- Abuses substances
- Suffers from depression
- Has had increased symptoms of depression in the past year
- Has had increased medical health symptoms in the past year

Several discharge sheets prove that residents have been physically affected by oil spill contaminants, but the least treated symptoms (as was also true along the Gulf) were mental health problems, which, across the board, lacks funding for outreach. The general demeanor throughout the community is stressed, which can also be attributed to financial and social, personal circumstances, but among other residents, there were the same similarities that I found during my studies in the Gulf region. Lack of public health information was leading to severe mental health conditions, such as paranoia and hypochondria, or concern that every new health symptom was related to the hydrocarbon exposure. Residents have also coined the term “oil spill diet” to associate the sudden weight loss with the oil exposure. Michelle and others have lost fifteen pounds or more since the disaster. Others are concerned with neurological damage, including short and long-term memory loss. Short-term memory loss has been a huge problem for local mobile park residents, says Michelle, and the nausea has been affecting many, and there are new symptoms every day. Locals simply do not know what is normal or what is not.

Another issue, as also noted by the Michigan study, is that it is often difficult to determine symptoms, such as respiratory ailments, during a study in a demographic that may have other illnesses and exposures. As I found during my observations of the Deepwater Horizon spill, levels of benzene in the blood stream do not necessarily indicate exposure to crude oil. The Michigan study also demonstrated that approximately 20% of the populations included in the health symptoms survey were smokers. Although the data was primarily used to determine

which of these cases reported more severe respiratory problems after also being exposed to oil, it also highlights a flaw, since cigarette smokers are constantly exposed to benzene from cigarette smoke, as are those in trades that require use of paint thinners and other chemicals. Lifestyle and preexisting conditions can be an important determinant when trying to assess health outcomes.

According to Michelle, this may be one of the reasons why the mobile home community, although greatly overlooked by Michigan's study and follow-up, but vulnerable populations are those with social, economic, medical and other factors which make them more susceptible to negative outcomes associated with, among other things, environmental disasters. Per the characteristic list above, the Battle Creek community may suffer from additional acute symptoms, more so than other communities, not only because of their close proximity to an oil zone but because of their numerous chronic illnesses and socioeconomic factors.

During my visit, I met a toddler at the mobile park with a large lesion on his skin. The mother, who had taken him numerous times to the local health clinic with symptoms, was concerned that the new sore was "oil spill related." A year later, the complaints are more frequent and more serious. A man's left-side of the face is now drooping, a typically healthy woman is now getting severe migraines, and a neighbor's emphysema is worsening. Although all reasonable concerns Michelle said so many are having difficulty finding adequate medical and mental assistance, particularly considering that, again, many were unable to afford specialists or travel. Anna Oberlin mentioned that she had asked the local health clinic for a special blood panel for herself that would include information about the levels of benzene and other hydrocarbons in her system and was told that [due to the limitations of Medicaid], such test would be at least \$600 out of pocket. Michelle mentioned that the Michigan Health Department had sent around basic questionnaire last fall for residents to fill out, but there seems to be no plan for follow-up. Residents who reported ailments from exposure were told they would hear from Calhoun County health officials about what will be done. There has been no activity thus far. Public health outreach is badly needed in this community, and any reach out will be greatly welcomed, but for some, it has been and will be too late.

It has been more than a year since the [U.S. Department of Health and Human Services directed the Institute of Medicine to lobby for a study to monitor the long-term effects of exposure to oil](#). Unfortunately, there has not been much progress on these commitments, which are often met with both funding and political backlash. It will also be too late for a few of Michelle BarlundSmith's neighbors, two of whom are cancer patients with worsening symptoms (one of whom was in remission prior to the oil spill), a neighbor with kidney failure and other symptoms. Obviously, there are various reasons why chronic and other health issues progress, but there is an underlying concern that the progression of existing ailments and diseases are accelerated because of auto-immune or neurological affects of the hydrocarbon exposure. This concern is not unfounded. According to the [Annals of Internal Medicine](#), as recently reported by Emerging Health Threats Forum, disaster workers exposed to oil and cleanup dispersants at a 2002 Spanish spill have suffered from both respiratory and genetic disorders, with chromosomal abnormalities that may increase a risk of cancer. Since our meeting last September, Michelle BarlundSmith has reported that at least four local residents have died. Although these residents had underlying conditions (such a kidney failure and cancer), the concern is that exposure facilitated quicker deterioration.



The Michigan health study also demonstrated that there was a greater likelihood (11%) among residents who had relocated due to the oil spill to see a doctor than those who did not, and that determination leads to additional questions, such as if relocation led to easier access to physicians or did the qualification to relocate lead the resident to be more concerned over their health. Either way, this higher frequency of seeking medical help did not include Battle Creek.

Another vulnerable population, as noted in this paper and in the Michigan study, is the workers. According to a workplace survey by the health department, 92% of the surveyed workers documented a fluctuation in new or worsening symptoms. These symptoms included headaches, respiratory problems, other neurological problems (such as dizziness, anxiety), gastrointestinal symptoms, skin irritations and fatigue. Yet, only 17% of these workers were seeking medical help.

There is also concern about long-term health problems for those who are only showing minor symptoms, if any, such as children. In the Gulf region, health studies have been requested to [determine whether children who are consistently exposed to hydrocarbons will suffer neurological damage, whether there will be abnormality in fetuses and other genetic problems.](#) According to the Spanish study, this is not unfounded. Robert A., a concerned parent, said he tried unsuccessfully to speak to local political and health officials about the close proximity of his daughter's daycare center to the oil spill area, with no critical response.

In January 2011, I wrote to Congressman Kate Segal about my observations concerning the health implications of hydrocarbon exposure on the vulnerable populations, and I received a typical form response, saying that the matter was on her radar. Michelle BarlundSmith has experienced deeper frustration with politicians, from losing the help of former Congressman Mark Schauer to spending both the time and personal expense to travel to Capitol Hill. On September 15, 2010, Michelle and two fellow residents of the Calhoun County area [appeared before the House Transportation and Infrastructure Committee](#) to testify on their personal accounts of the Enbridge oil destruction. [The Michigan residents' comments were supportively and vocally backed by U.S. Representative James Oberstar](#) but they received little assurance from Enbridge CEO Patrick Daniel, and there has been no Congressional visibility or proactively since last fall.

As the oil disaster moved into its one-year anniversary, residents shared that, along with winter's snow melting, the odor and visible signs of remaining oil was very much present, but that residents were trying to return to whatever normalcy of life and work that they had prior to the spill. As with life along the Gulf of Mexico, there is some shared sense of solidarity among the informed residents that they will move past the disaster. Among others, there is a tired complacency that continuing to fight the "battle" isn't getting anywhere, so "why bother." Those types of defeatist attitudes are normal in communities faced with long and unyielding fights with corporations and governments, whether here or abroad, with the giving up "because it is what it is" and little belief in change.

Michelle says that is the case in Battle Creek and Marshall, as well. Without adequate advocacy funding, pro bono attorneys, accessible mental health services and consistent media outlets, most

people are now ignoring the problem. They pass through cleanup corridors with indifference, and others have quit seeking help. Perhaps this is what corporations count on, or perhaps it's the better human response to failure than hopelessness. However, there are signs everywhere that the disaster is not over. One only has to look along the Kalamazoo River to see the oil debris or drive into Marshall to see the workers. Even the sick have assumed that this is the new way of life. The Michigan health survey recognized in its discussion section of the health survey report that determining mental health issues has many limitations, noting that PTSD, depression and anxiety of an area of concern and mentioning that other studies have concluded that there is higher rate of psychiatric disorders in populations that have been exposed to oil than those who have not, but that the results for their study were inconclusive.

Advocates like Michelle BarlundSmith continue to gather health information on residents, and others are planning a class-action suit. I was shocked when in early summer, Michelle contacted me with the news that George C. had died. His long-time battle with various ailments and the stress of his living conditions were too much, we surmised, and my heart sank. Obviously, with various underlying and pre-existing ailments prior to the oil spill, there would be no way to adequately link his passing with the exposure, but there remains proof that he and his children were consistently exposed to hydrocarbons and, despite various requests to Enbridge, he was not relocated. Michelle asserts that the mental health issues here and in other cases may be a seriously ignored factor. At the mobile park, talk of the oil spill, exposure and health issues is a daily topic for many, but those who are ignoring her offers of help are also among the hardest hit. The public health system here, as across most of the nation, is non-existent. Lack of outreach for the most vulnerable, particularly those on social programs, is a senseless atrocity. There seem to be numerous cases of avoidable illnesses and preventable death.

## **Prognosis**

The cleanup effort, now led by Michigan's Department of Natural Resources ([DNRE](#)) continues, and residents are moving forward. Michelle BarlundSmith and other community advocates continue to be a voice for the mobile park residents, in particular, one of the youngest of whom now suffers from consistent stomach cramps while another has a lump on his lymph nodes, which may soon be surgically removed. Fisheries and Wildlife Services has taken over a large portion of the rescue efforts, with more than 250 turtles and countless waterfowl cleaned and released, and their efforts continue.

The local mini-golf place has not yet recovered and is still without settlement from Enbridge. The owner shared with us that they had proof of tar sand oil on their equipment supplies and was told that it "was mold." A few residents have tried to reach out to legal aid organizations without much luck, and still others are having problems getting their medical reimbursements from Enbridge. Class action suits are still in the development stages.

With [visible disaster cleanup, saturated booms](#) and residents complaining of chronic health symptoms, it is difficult to assert how long the aftermath of the Enbridge oil spill will continue. [Current photos](#) taken by concerned residents certainly speak for themselves. For residents like Michelle, the battle to advocate for the especially vulnerable populations, the low income, elderly, and the ill, is a lonely one but one she plans to continue for the sake of her own family,

friends and neighbors. Having suffered from hydrocarbon exposure-related symptoms personally for over one year, she feels that relief is way overdue.

Any continued health assessments from the State of Michigan and other governmental agencies will likely be inconclusive for the long-term, since, as mentioned in their report. Michigan public health workers admit that they missed the opportunity to take blood and/or tissue samples and thoroughly documenting health complaints beginning with June 2010 oil spill inception. Without such a [quantitative](#), epidemiological study, which would follow an affected population over a long period of time, it will always be difficult to show a correlation between the oil spill and the health of a population, but it is not too late.

Consistent and accurate documentation of the current population, with particular attention to symptoms that are known to be related to oil spill exposure, can lead to a better understanding of the potential health outcomes. Developing symptoms of any new residents moving into the area would also be a further indicator that the present conditions are not safe for residents. However, according to the November 2010 Michigan study, there is no current plan to continue a health analysis, for medical or mental health issues, which is disappointing, as this and other related state, local or even global studies can help us further understand the consequences of both environmental degradation, particularly from oil and gas pipeline, and the shortcomings of disaster response plans. Funding and budget constraints are always a hurdle in these studies, and to Michigan's credit, the conclusion to their November 2010 shares that the State will be refining their public health and emergency response protocol based on the learning curve of this disaster. That is often the best we can hope for.

Many residents have hopes that my observations of the oil disaster in the area would lead to a significant study of the adverse health effects of oil. Unfortunately, public or private funding is necessary for any study, particularly long-term needs. As with the shortcomings of the Michigan health study, proving acute health effects is a long, epidemiological process and that, I hope, will be developed with the next significant oil spill, because there will be one. There is also an opportunity here to debate the consequences of "big oil," a popular topic, especially as the tar sand oil protests grow in Washington, D.C. However, I am realistic in my expectations about energy and oil. I am nationalistic and optimistic, and I still believe that people have rights, even over our government. What I also believe, however, is that repercussions for corporations responsible for environmental disaster, particularly wealthy transnational corporations, appear to be small, inconsequential and often obsolete compared to the immediate and future financial, health and personal outcome for an individual, particularly those in vulnerable populations. By comparison, their burden is great and, sometimes, paid with their lives. For a corporation, there is the write-off of a loss, the transformation of a merger, and the passing on of responsibility. As a nation, we have allowed this to happen, and we are also part of corporate America and corporate America is what built the wealth of our nation.

As Americans, we need to be vigilant in our resolve to fight for and uphold our rights and protect, especially, the most vulnerable in our own country. We also need to be reasonable in our expectations. One cannot protest "big oil" and drive a non-electric car, heat their home with anything but solar power, or drink from plastic cups at the drive-through on their way home from a corporate job. What we can do, however, is demand that both corporations and government be

accountable for the most basic of our privileges, the right to a conserved environment and the right to health.

It has always been a reality, here and abroad, that in an environmental or hazardous waste disaster or a long-term “superfund” area, the “suits” have long pulled out, leaving exposed and unguarded, either by geography, demographic or occupation, vulnerable citizens. However, residents with unchecked health effects or the unknown long-term prognosis of a hazardous waste cleanup worker is inexcusable in our knowledgeable, advanced country. However, government has allowed corporation to become defiant in their responsibility to Americans, and we are their consumers, and together, everyone has lost sight of the principles on which we were founded.

Corporations have become too powerful in our governmental system, swaying campaigns and votes and bullying politicians. Because of this, our nation is faced with increased and irreversible “exploration” and environmental extraction, economic despair, disparity in human rights, a growing gap between the impoverished and the wealthy, and the notion of an insignificant vote, a negligible constituent and an immaterial right to basic needs, health, free speech and the pursuit of happiness in our great democracy. Government priority is heading down the dangerous path of corporate preference, ensuring the progress of banks and financial institutions and ignoring the right to public health. Compared to other nations, we have it backwards, yet it is not the government who is indifference. The American public, the American consumer, is the sleeping giant. One socioeconomic level after another, everyone will eventually feel the effects of negligence, unless everyone demands change. As I observed in Michigan, at the Gulf Shores, and other areas where there is social, environmental or economic unrest, the average person will sit by and let “the other” be the mouthpiece. Michelle BarlundSmith has very much become the everyman’s advocate in the Enbridge disaster area, but she is quickly finding, that she is not enough to make change. Many lie in wait for a class action suit to develop, others just move on, albeit with severe health issues. We, as American consumers, in our comfortable and indulgent lifestyle, have allowed both corporate and governmental exemption to happen. We need do need both corporation and government, but, for the former, not lawlessly, and, for the latter, not negligibly.

Although a major disaster looms [if oil continues to Lake Michigan](#), a year past the original oil leak, this rather inconspicuous area of Michigan is now seemingly removed from both corporate and public concern altogether. As with BP in the Gulf, Enbridge has moved on with its other oil endeavors, most recently oil sand issues in Canada, and the Talmadge Creek spill has now been added to EPA’s overwhelming superfund site list. For Marshall, Ceresco and Battle Creek residents, the financial burden and health implications of this disaster may be irrevocably, as with Love Canal and other disaster sites, permanent and indefinite. As a nation, the burden of Calhoun County’s oil spill clean up is now that of the government’s and, in essence, ours. The growing disparity between protecting America’s corporations and safeguarding America’s citizens should no longer be ignored. The untold financial and health implications of growing corporate negligence cannot be ignored.

The limitations of a health ethnography is, as in my other studies, lack of data, those numbers that hard science proponents must see to believe there is a problem. They do not believe that the

story is enough. However, each reader must make the decision for himself whether or not the material demonstrates a probability of corporate negligence and vulnerable populations, for one reason or another, in America and then, as is our right and duty, determine how to be a part of the solution.

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See [additional photos from the 2010 study](#).

See [current photos and residential reporting](#).

See full State health report: [MDCH Acute Health Effects of the Enbridge Oil Spill](#)

See [EPA's website on the Michigan area oil spill](#).