

The background image shows an industrial facility with several large silos and a multi-story building with many windows. The scene is viewed through a grassy field in the foreground. The entire image has a dark teal overlay.

Who's Paying the Price?

The Effects of Loosening Environmental Cleanup in Michigan

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Table of Contents

Introduction	1
Historical Context	2
<i>Michigan Environmental Response Act</i>	2
<i>Polluter Pay Amendments</i>	3
<i>Creation of Part 201</i>	3
Part 201 in the Present-Day	5
<i>Institutional Controls</i>	6
<i>Liability Provisions</i>	6
<i>Obligations and Response Activities</i>	7
<i>Compliance and Enforcement</i>	7
<i>Funding Sources</i>	7
Current Challenges	8
<i>Availability and Transparency</i>	8
<i>Increasing Number of Contaminated Sites</i>	10
<i>Cleanup Spending</i>	10
Analysis	11
<i>Discussion</i>	12
<i>Limitations</i>	14
Conclusion	14
Appendix	16
References	17

Introduction

Environmental remediation refers to the process of removing, containing, or mitigating environmental pollution or contamination. This approach relies upon several steps, including site assessment, feasibility studies, remedial action planning, implementation, and monitoring. The specific approach used will depend on the type and extent of the contamination, the regulatory requirements, and other factors. Overall, the goal of remediation is to reduce or eliminate risk to environmental and human health.

Since 1980, environmental remediation at the direction of the federal government has been governed by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as the Superfund Act. However, in addition to the Superfund program, several states have established their own programs for addressing contaminated sites not covered by federal regulations. For instance, in 1982, the state of Michigan



adopted the Michigan Environmental Response Act (MERA), which created a framework for identifying, assessing, and cleaning up hazardous waste sites in Michigan.

In the last forty years, however, the funding structure and regulatory scope of the program has changed dramatically. Between 1991 and 1995, the state had one of the strongest remediation laws in the country, with strict liability and cleanup standards for polluters (CWA, 2019). Under this regime, polluters were responsible for a portion of the cleanup cost. This model is commonly referred to as “polluter pay.”

However, in 1995, amendments were passed which severely loosened these provisions, limiting polluter liability and shifting remediation costs to the state. The new program was reorganized into the National Environmental Policy Act (NREPA) as Part 201. Today, environmental remediation in Michigan continues under this programmatic architecture, much to the detriment of cleanup efforts. From 1991 to 2022, the number of known contaminated sites has grown rapidly just as funding has fallen.

An important concept underpinning this regulatory framework is liability. Determining which actor(s) can be held responsible for cleanup costs and activities is essential to functioning of the Part 201 program. In cases when a responsible party cannot be identified, cannot afford cleanup costs, or is exempt from liability, the state of Michigan assumes responsibility and uses state funds to conduct the cleanup process. Without strict, status-liability, it is possible for owner and operators to avoid paying for contamination cleanup, thus shifting the burden to taxpayers.

In this paper, I examine the legislative legacy of the Part 201 program and the impact of statutory changes related key remedial, legal, and administrative provisions. I begin with the historical context of environmental remediation in Michigan, focusing on the shift between 1990 and 1995. I discuss the present conditions of the Part 201. Then, I introduce three present challenges and present my legislative legacy analysis. I conclude with policy recommendations.

Historical Context

The legislative history behind environmental remediation in Michigan begins with the Michigan Environmental Response Act (MERA), passed in 1982. Less than a decade later, polluter pay amendments would be added to MERA. In 1995, the Part 201 program was established.

Michigan Environmental Response Act

In 1982, the MERA was passed by a Democratic-controlled state legislature and signed into law by Governor William Milliken, a Republican. The aim of this bipartisan legislation was to provide a structured mechanism for funding the cleanup of contaminated sites.

The act sought to provide for the identification of contaminated sites, the risks posed, and possible solutions (Levine et al., 1991). It also required a listing of all contaminated sites to be produced on an annual basis and created the Environmental Response Fund to pay for



remediation procedures (Levine et al., 1991). Importantly, MERA gave the attorney general the ability to seek reimbursement from responsible parties for any public expenditures made for cleanup costs (Levine et al., 1991). These processes became collectively known as the Act 307 program.

The program was seen as largely ineffective, with a meager six contaminated sites having been remediated between 1982 and 1988. This was as a result of limited funding and implementation issues, as the process for seeking reimbursement was complex and underdeveloped (Levine et al., 1991). In response, Michigan voters approved the Environmental Protection Bond Authorization Act (EPBAA) through ballot initiative in 1988, which achieved 76.5% of the vote (Ballotpedia, n.d.). The EPBAA mandated that \$425 million be spent over several years to fund the Act 307 program (MDOS, 2008).

Polluter Pay Amendments

In order to address a growing number of contaminated sites in Michigan, the state felt compelled to act. An alternative to a federal and state funded program was privately funded cleanup, where public funds would only be used when responsible parties could not be located or were bankrupt. To this effect, House Bill (HB) 5878 and Senate Bill (SB) 1020 were passed through a divided legislature and were signed by Democratic Governor James Blanchard in 1990.

The bill package sought to quicken the cleanup of contaminated sites by 1) providing the Department of Natural Resources (DNR) with better enforcement tools and 2) offering penalties and incentives for polluters to pay for cleanup (HLAS, 1990). Crucially, the amendments placed the burden of proof on the potentially responsible party, and stated that both present and future owners would be responsible for cleanup costs (Bails, 1995).

Part of the motivation of these bills was to create a state counterpart to the CERCLA, ensuring the state's ability to receive funds from the Superfund program (Smary et al., n.d.). Proponents argued that the bill would shift the burden to polluters "by establishing deadlines in order to expedite the cleanup process, and by establishing allocation and mediation procedures to help businesses and the state avoid lengthy litigation," while opponents slammed the package for increasing the "costs of doing business in the state" (HLAS, 1990). Under polluter pay, the state raised approximately \$100 million between FY 1991 and 1996 (MEC, 2021). Adjusted for inflation, the average yearly appropriation would be worth \$43.7 million today: almost equivalent to the \$52.5 million appropriated for Part 201 in FY 2023.

Creation of Part 201

In 1994, the Natural Resources and Environmental Protection Act (NREPA) was passed. The aim of this bill was to re-codified and consolidated Michigan's environmental laws, with Act 307 becoming NREPA Part 201. A year later, HB 4596 was passed in 1995 by a Republican-controlled state legislature and signed by Republican Governor Engler. The package curtailed the polluter pay provisions introduced in the 1990 amendments to the MERA, through changes to liability, burden of proof, and cleanup costs. For instance,



current owners and operators were not liable if they could prove they were not responsible for pollution-creating activities (Bails, 1995). Another significant change was the ability of future owners to escape cleanup responsibilities by conducting baseline environmental assessments (BEA) (Bails, 1995).

The bill lowered previously high cleanup standards. For instance, the acceptable risks for exposure to carcinogens was increased relative to population count (Bails, 1995). Furthermore, HB 4596 allowed for contaminated groundwater to remain untreated “under certain circumstances where the risk of public or environmental exposure to the contaminants could be minimized” (Bails, 1995). Table 1 summarizes the key provisions which were amended in 1995 in the reorganization of MERA into Part 201.

Table 1. Key Part 201 Changes

Provision	MERA (Pre-1995)	Part 201 (Post-1995)
Institutional Controls	Allowable institutional controls include easements, conservation easements, restrictive covenants, and action from local government.	No major changes.
Liability	Under MERA, liable parties included: <ul style="list-style-type: none"> the owner or operator of the facility, the owner or operator of the facility at the time of release, a person that arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment, and a person that accepts or accepted any hazardous substance for transport to the facility selected by that person. 	Eliminated liability for owners and operators who did not cause contamination at a facility. Liable parties included: <ul style="list-style-type: none"> the owner or operator of a facility (if that person were responsible for an activity causing a release), the person who owned or operated a facility at the time of release, and a person who became an owner or operator of contaminated property after March 1, 1995, unless that person completed a BEA.
Operator/Operator Obligations	Categorized sites by cleanup standards: <ul style="list-style-type: none"> Type A sites were cleaned to background levels, Type B sites were cleaned to risk-based criteria, and Type C site cleanups eliminated exposure potential through restrictive management actions but would not necessarily remove contaminants. 	Established cleanup criteria based on land-use categories: <ul style="list-style-type: none"> Commercial, Recreational, Industrial, and other land use-based categories established. <p>Also provided for “limited” categories. A person proposing the remedial action would have the option of selecting a cleanup category, subject to DNR approval.</p>
Response Activities	An owner or operator who obtained information that there could be a release at a facility would be required to immediately take appropriate action,	After 1995, a person could undertake a response activity without prior approval. Additional response activity requirements were added. The owner or



	<p>consistent with applicable laws and rules to do the following:</p> <ul style="list-style-type: none"> confirm the existence of the release, determine the nature and extent of the release, report the release to the department within 24 hours, immediately stop or prevent the release at the source, immediately identify and eliminate any threat of fire or explosion or any direct contact hazards, and immediately initiate removal of a hazardous substance that was in a liquid phase, that was not dissolved in water, and that had been released. 	<p>operator of such a facility would be required to:</p> <ul style="list-style-type: none"> Immediately implement source control or removal measures to remove or contain hazardous substances, provided that they were practicable and cost effective and provided protection to the environment. Pursue response activities necessary to achieve specified cleanup criteria.
Compliance and Enforcement	<p>States that those convicted of a felony shall be fined between \$2,500 and \$25,000 for each violation of MERA. Indicates that the court may impose an additional fine of not more than \$25,000 for each day during which the release occurred.</p>	<p>Added the crime of misrepresentation of qualifications in documents relating to liability for cleanup costs. Specifies that a person who is exempt from liability for cleanup costs would not be subject to a claim in law or equity for the performance of response activities.</p>
Funding Sources	<p>MERA was initially funded through the Environmental Response Fund, unclaimed bottle fund, and long-term maintenance trust fund. In 1988, the Quality of Life Bond Proposal was approved, including a total of \$425 million devoted exclusively to toxic waste cleanup.</p>	<p>The 1995 amendments included language deleting requirements regarding legislative appropriations and disbursements for response activities from the Environmental Protection Bond Fund.</p>

The DNR, which supported HB 4596, claimed that the package would amount to savings of \$500 million over the next seven to ten years (HLAS, 1995). Although taxpayers would be burdened with a larger portion cleanup costs, the lower cleanup standards would result in the removal of contaminated sites from the scope of the program. As such, there would be a net reduction of costs (HLAS, 1995). However, a separate analysis conducted by the Senate Fiscal Agency estimated that while polluters would save \$395-1,698 million dollars, taxpayers would endure an increased cost of \$45-198 million (Bails, 1995).

Part 201 in the Present-Day

Today, the Part 201 program is administered by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) Remediation and Redevelopment Division (RDD). EGLE RDD establishes criteria for assessing and cleaning up contaminated sites, and it oversees the investigation and remediation of these sites. Institutional controls, liability provisions, owner/operator obligations, response activities, and compliance and enforcement mechanisms are largely informed by the framework introduced in 1995, with slightly modifications.



Institutional Controls

Part 201 outlines the use of institutional controls (legal, non-engineering restrictions on contaminated sites) to restrict further contamination. These include:

- **Easements:** allows a holder the right to use or refrain from use on a portion of land
- **Conservation easements:** a typically voluntary agreement between a landowner and a government or conservation agency which legally restricts significant modifications to the land.
- **Restrictive covenants:** legal agreement between a landowner and the state that restricts the use of a property (e.g., limiting certain land use practices, requiring exposure barriers)
- **Local government action:** land use and planning tools utilized by local governments (e.g., planning and zoning processes, ordinances)

Responsible parties are often able to utilize institutional controls as a way to ensure contamination is contained, rather than full remediation.

Liability Provisions

Both owners and operators of facilities (e.g., areas in which a hazardous substance is in excess allowable concentrations) are liable under Part 201. Specifically, this includes:

- The owner or operator of a facility, if that person were responsible for an activity causing a release, or threat of release.
- The person who owned or operated a facility at the time of the disposal of a hazardous substance if that person were responsible for an activity causing a release or threat of release.
- A person who became an owner or operator of contaminated property after June 5, 1995.
- A person who by contract, agreement, or otherwise arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment, of a hazardous substance owned or possessed by the person, by any other person, at a facility owned or operated by another person and containing the hazardous substance.
- A person who accepts or accepted any hazardous substance for transport to a facility selected by that person.
- The estate or trust of a person described above.

Liability exemptions also exist. Most notably, owners which complete a baseline environmental assessment (BEA) report are not beholden to liability and fulfil their due care obligations. BEAs are defined as “an all appropriate inquiry” to confirm a property is contaminated (MCL 324.20101). However, there is some ambiguity in this definition, meaning that as currently written, BEAs do not require a property owner to differentiate existing contamination from new hazardous releases. This represents a problem for emerging contaminants, such as PFAS. Since this class of contaminants has only recently



been found to be dangerous to human health, it is likely underreported in BEAs which have only detailed existing contamination.

Obligations and Response Activities

Part 201 is triggered once an owner or operator of a site become “aware” of the contaminated release. Unless soil or groundwater contaminant concentrations exceed the cleanup criteria set by EGLE RDD, no action is taken. The division establishes cleanup criteria based on whether the land is categorized as residential or nonresidential. If contamination is below the reportable limit outlined, potentially liable owners and operators are not required to disclose contamination to EGLE. If this rises above the reportable limit, then the owner or operator of a property is required to notify EGLE, as well as adjacent property owners if there is reason to believe that contamination has spread beyond their property.

It is important to emphasize that liable parties are not required to disclose their activities to the EGLE, meaning that some releases likely go unreported. However, those that do report to EGLE are required to initiate response activities as outlined in Table 1. After satisfying Part 201 cleanup criteria, whether self-implemented or ordered by EGLE, an owner/operator submits a no further action report (NFAR) to establish that hazardous substances fall within the acceptable threshold outlined for their particular land use.

Compliance and Enforcement

EGLE RDD is given the authority to undertake remediation activities whilst recovering costs from responsible parties. Administrative powers include information requests, access to facilities, state-initiated response activities, civil or criminal actions, and administrative orders. If there is a “reasonable belief” that a site is contaminated, EGLE RDD has the ability to access and investigate the property.

If a site is found to be contaminated beyond regulated levels, the owner/operator may be liable for response activities as discussed above. If a liable party refuses to comply, the state may initiate its own response activities, issue an administrative order, and file civil action seeking relief and recovery of costs and damages. If granted, polluters can pay a fine of up to \$25,000 per day by refusing to cooperate with the agency.

Legislative statutes also provide for felony penalties. If found guilty, a responsible party can be fined \$2,500-25,000 for each day a toxic release occurred. For second offences, this number can be as high as \$50,000 per day.

However, Part 201 does not give EGLE RDD the authority to force liable parties to take on specific response activities as long as the response taken “sufficiently” mitigates the risk, likely leading to the utilization of institutional controls rather than full remediation activities.

Funding Sources

Environmental remediation in Michigan is funded through a variety of sources. Table 2 illustrates funding sources for environmental remediation during FY 2023. These sources



fund the Part 201 program, in addition to Part 211 (underground storage tanks), Part 213 (leaking underground storage tanks), Brownfield grants, and Superfund site cleanup activities.

Table 2. Environmental Remediation Funding, FY 2023

Source	Amount
Federal funds	\$16,616,200
Brownfield development fund	\$1,100,000
Cleanup and redevelopment fund	\$54,722,700
Environmental response fund	\$1,442,100
Laboratory services fees	\$8,208,000
Public water supply fees	\$327,700
Refined petroleum fund	\$33,241,600
State general fund/general purpose	\$294,600

In prior fiscal years, the Clean Michigan Initiative (CMI) has provided the program a significant portion of funding since its launch in 1998 (OAG, 2022). Under the CMI, \$570 million in spending was authorized for a variety of environmental uses. Since FY 1999, 43% of all CMI funds (\$236 million) have been appropriated for environmental remediation and redevelopment (OAG, 2022). However, as of September 2021, all funds expended or designated for environmental remediation were used (OAG, 2022).

Current Challenges

In order to inform the analysis underpinning this project, three interconnected issues impacting the Part 201 program were identified. These include a lack of information availability and transparency, stagnating spending, and an increasing number of contaminated sites.

Availability and Transparency

Before 1995, the DNR was required to submit two list of detailing environmentally contaminated sites. The first identified all known sites in order of relative risk, outlining whether a site required further evaluation and if any interim response activity was ongoing. The second outlined sites in order of risk where response activities will be undertaken by the state.

The department was required to make records available to the public regarding sites where remedial actions were completed, submit proposed lists for public comment, and finalize the lists ahead of funding recommendations and legislative appropriations. These provisions made the process, from establishing methodologies to assigning sites to the list, relatively transparent for the public and legislature. Information regarding sites, as well as their clean up status, was readily available. Overall, accountability and public access was regarded as an important part of the programs functioning. However, these requirements were curtailed following the amendments passed in 1995.

Under Part 201, the MDEQ was required to annually submit a list to the legislature of sites where public funds are being received. This list was to be sorted in alphabetical order,



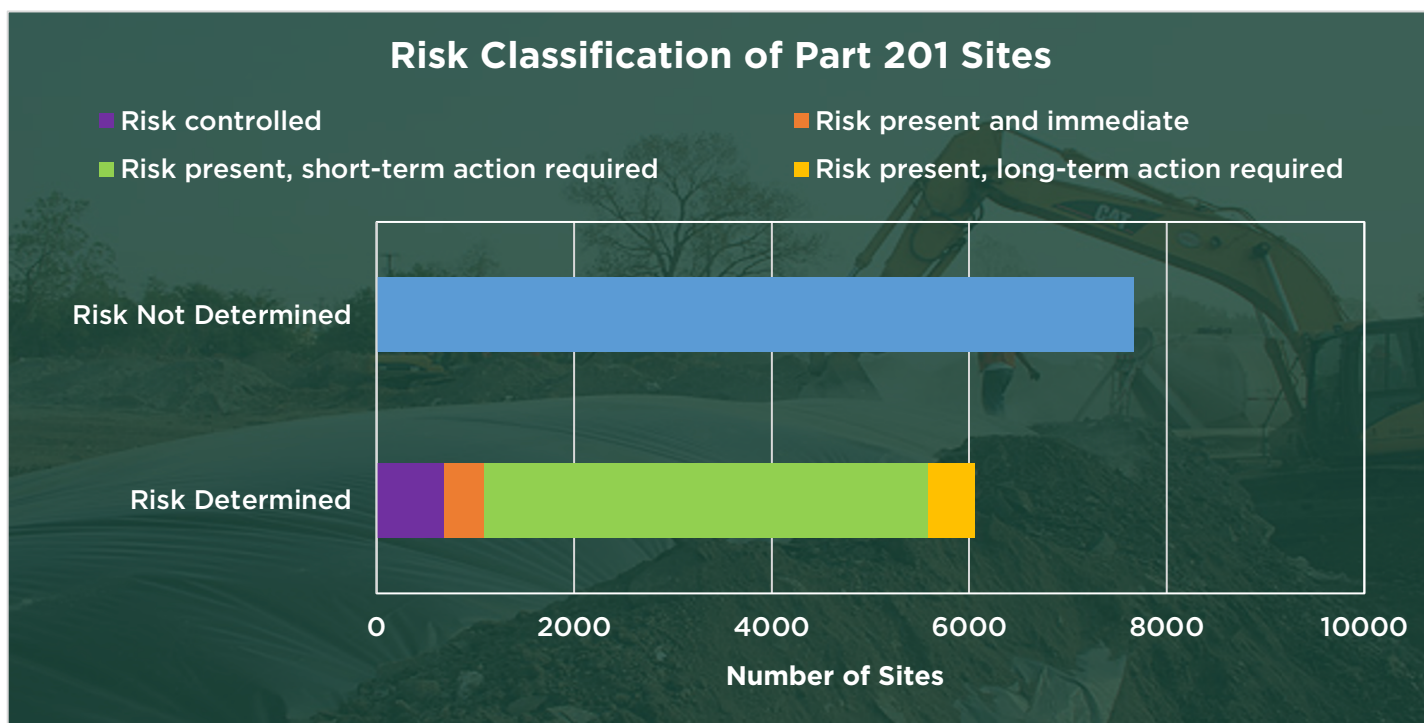
rather than by risk classification. Additionally, the requirement to publish a list of all contaminated sites each year was removed, replaced by a four year commitment.

Despite the overall weakening in availability and transparency, some processes remained. The MDEQ was still obligated to:

- Assign a site a priority score for response activities once identified and evaluated.
- Develop risk assessment models.
- Submit a list of sites every four years (public hearings required), showing response activities, ownership, and changes in status.
- Maintain and make available to the public records regarding sites where remedial actions have been completed and those where land-use restrictions have been imposed.
- Keep sites on the list until the necessary response activity meeting specified standards is complete.
- Notify property owners, the local health department, and the municipality in which the site is located before inclusion on the list.

Under HB 6358-6363 passed in 2010, however, all of these provisions were removed. As such, there is limited information about how many contaminated sites exist, what activities are being carried out (if any), what risk they pose, and how they are being funded.

Figure 1. Risk Classification of Part 201 Sites



At time of writing, the Michigan Department of Environment, Energy, and Great Lakes (EGLE) has limited public-facing information on the status of sites, and is no means obligated to do so under statute. Furthermore, the data available leaves much to be



desired. For the sites displayed on EGLE’s online data portal, 56% of sites do not have a determined risk level. This is demonstrated in Figure 1. Information regarding ongoing remediation, funding, and specific priority score are not available. This lack of data availability and transparency makes it difficult to ascertain the true extent of Michigan’s contaminated sites problem, meaning solutions are harder to prescribe.

Increasing Number of Contaminated Sites

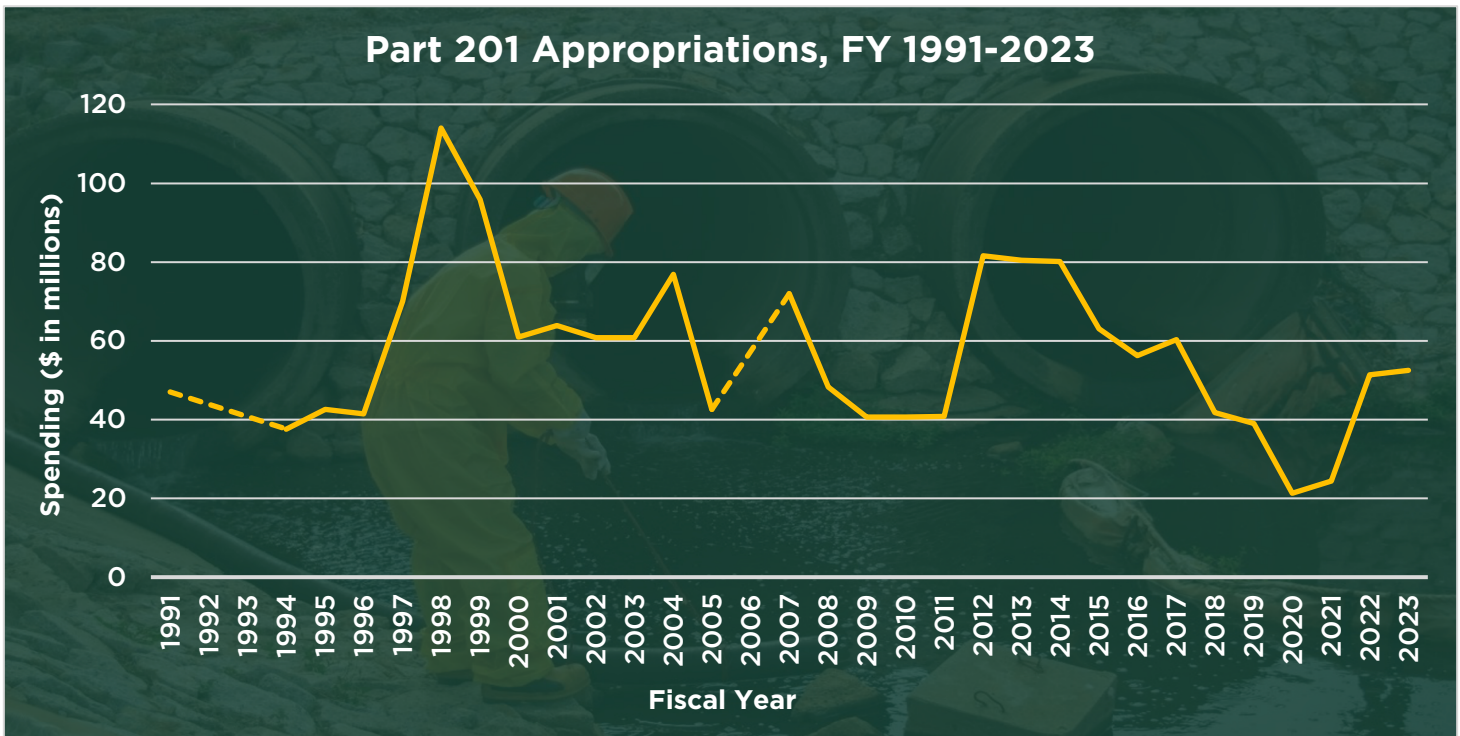
While it is difficult to determine the total amount of contaminated sites in Michigan due to the reasons discussed above, it is clear that the number has increased in the decades since polluter pay was weakened. In 1991, there were 5,070 contaminated sites regulated under the Act 307 program. This is contrasted by a 14,005 sites in 2022, a 176% increase.

However, this comparison is difficult to make, considering changes made to cleanup criteria. Under Act 307, sites were included on lists based on standards established by the state, which often went beyond federal standards. This changed after the passage of HB 4596 in 1995, which allowed MDEQ to establish cleanup criteria for a hazardous substances using a “biologically based model developed or approved by the USEPA” (HLAS, 1995).

Cleanup Spending

When polluter pay was loosened in 1995, state spending rapidly increased to compensate for the loss of in revenue from polluters. Between FY 1996 and 1997, spending allocated for the Part 201 program increased by 69%. Figure 2 illustrates overall appropriations from FY 1991 to 2023, in real terms (2022\$). Dashed lines indicate missing data for FY 1992, 1993, and 2006.

Figure 2. Part 201 Appropriations, FY 1991-2023



Over the past two decades, spending has remained below peak 1998 levels. From FY 2014 to 2020, spending was in decline, and has only started to increase back to FY 2014 recently. In fact, appropriations for FY 2023 are relatively similar to those for FY 1991-1996. This is concerning, as state funds had previously only made up around 55% of total remediation costs (Bails, 1995). As a result, the state is operating with a reduced financial capacity, likely leading to a situation in which contaminated sites are remediated slowly or not at all.

As alluded to above, this funding crisis may be compounded by the fact that all authorized CMI funds have either been exhausted or designated for spending. Taking into account that CMI funds have provided a total of \$235.6 million to the program between FY 1999 and 2021, this necessitates a need to find alternative sources of funding (OAG, 2022).

Analysis

Because of the issues expressed above, an analysis exploring the legislative legacy effects of the Part 201 program was warranted. To evaluate this, three types of criteria were selected:

1. Remediation criteria: provisions relating to the cleanup of sites.
2. Legal criteria: approaches to liability, property interests, and civil action.
3. Administrative criteria: items influencing program operations, including funding, modeling, and oversight bodies.

In total, thirty-three components were compared against thirty-five public acts passed between 1990 and 2018. For each, legislative changes were evaluated relative to 1990. To quantify the expansive or restrictive nature of these changes, the scale shown in Table 3 was used.

Table 3. Scoring Code

Score	Description
-1	Restrictive legislative change.
0	No legislative change.
1	Expansive legislative change.

Restrictive legislative changes are considered those that narrowed the regulatory scope of the Part 201 program. In this situations, the reach of the program is limited through exclusionary measures undermining the remedial, legal, and administrative capacities of enforcement agencies. On the other hand, expansive legislative changes are understood as those which increased the reach of the program, such as by offering more enforcement mechanisms or increasing the applications in which mechanisms can be used.

Table 2 highlights the net result for each criterion, examining the legislative history of the Part 201 program between 1990 and 2018. Full results, which score each public act, are available in the appendix.



Table 4. Program Effects

Category	Criterion	Net Result
Remediation Criteria	Definition of hazardous substances	-3
	Definition of facility	-3
	Cleanup criteria	-3
	Owner/operator response activities	-5
	Remedial action	-6
	Aquifer cleanup	-3
	Zoning of properties	0
	Carcinogen risk level	-1
	Contaminated groundwater	-4
	Soil ex-situ remediation	1
	Baseline Environmental Assessment	-2
Legal Criteria	Claims for damages	-1
	Liability and exemptions	-5
	Liability costs/liens	-1
	Public notice	0
	Due care obligations	-2
	Transfer of property interests	-3
	Consent agreement	0
	Civil actions	-1
	Restrictive covenants	0
	Covenant not to sue (CNTS)	-1
Civil penalties	2	
Administrative Criteria	Legislative intent	-1
	Financial resourcing for response activities	-1
	Risk/assessment/cleanup criteria models	-4
	Funding sources	6
	State orphan share remediation costs	2
	Science Advisory Council	-1
	Office of Environmental Cleanup Facilitation	-1
	Citizens Review Board	-1
	Administrative orders	-2
	Grant programs	-4
Reporting requirements	-1	

Discussion

Expanded Components

Between 1990 and 2018, five program components expanded relative to 1990. The majority of these provisions relate to the funding arrangements of Part 201. It is likely that these components were expanded in an attempt to pay for program costs following the loosening of polluter pay. State trust funds and general debt obligation bonds, notably the CMI fund, were established with this intent.

Program funding mechanisms increased following the introduction of the Cleanup and Redevelopment Fund to pay for response activities at contaminated sites, the Revitalization Revolving Loan Fund was created to provide loans to local units of government and brownfield authorities, and the State Site Cleanup Fund to finance response activities at facilities where the State is liable. Furthermore, the Brownfield



Redevelopment Financing Act allowed taxpayers owning eligible property in brownfield redevelopment zones to take a credit equal to 10% of the cost of investments in eligible property. Most significantly, the Clean Michigan Initiative (CMI) fund was introduced in 1998, pledging a maximum of \$335 million for response activities at facilities.

Grant programs were introduced to make cleanup more accessible for local jurisdictions. For example, the Community Pollution Prevention Fund was created to make grants to local units, health departments, and regional planning agencies for pollution prevention purposes. Additionally, Municipal Cost-Share Grant Program offered loans for localities pursuing response activities at municipal solid waste landfills. While the latter was discontinued in 2010, the Community Pollution Prevention Fund continues to accept applications (EGLE, n.d.). Additionally, legal civil penalties were expanded. In 1995, the crime of misrepresenting qualifications in documents relating to liability for cleanup costs was added to the statute book. This provision was extended to no further action report following amendments passed in 2010.

Restricted Components

In total, 67% of evaluated program components were restricted between 1990 and 2018. Notably, liability provisions, cleanup requirements, due care obligations, and reporting requirements were altered in a way that made it more difficult to establish liability, exact payment, and/or force the remediation of contaminated sites.

Liability provisions continued to be altered after the 1995 amendment, which is outlined in Table 1. In 2010, exemptions were provided for individuals holding a license, easement, or lease for the purpose of siting, constructing, operating, or removing a wind energy conversion system or component. This group would no longer be liable for a release or threat of release, unless they actively caused the contamination themselves. In 2012, those owning or occupying a residential condominium unit, under certain circumstances, would not be liable under Part 201. Furthermore, in 2013 and 2014, certain agricultural landowners and products (e.g., fertilizer) were exempt from Part 201 liability and commercial fertilizer bulk storage regulations.

Also in 2010, generic and limited cleanup criteria came more broadly defined, with fewer categories. Instead of having its own requirements, which likely would have been a higher standard than other land use categories, industrial sites were regrouped with commercial properties to form the nonresidential and limited nonresidential categories.

Due care obligations, which refers to necessary actions to mitigate human exposure to contamination, have been loosened. As of 2012, persons can submit documentation demonstrating their compliance, and it is unclear whether EGLE seeks to ensure this information is accurate.

Finally, subsequent changes in reporting requirements (discussed above) have weakened our understanding of site locations and contaminant conditions. In 2010, legislative list, scoring, and risk assessment model requirements were repealed. This was instead replaced



by a website of inventories detailing the number of response activity plans, no further action reports, and BEAs received each semester.

Limitations

This analysis is limited in several ways. First, does nothing to address legislative significance, as fundamental changes and minor amendments are weighted the same. Since the scoring system is limited to three indicators, it does not adequately measure variation in magnitude.

Second, the net result for each component analyzed is heavily influenced by the number of amendments impacting it. In combination with the point above, this can overstate the score of one particular component over others. This makes it difficult for comparisons across time within a specific component, as well as across the thirty-three program components assessed.

Third, the coding system is not narrowly focused enough to recognize restrictive and expansive elements of a public act relating to the same program component. Instead, only the aggregate impact is considered.

Finally, this analysis only focuses on legislation, leaving out administrative orders, codes, and changes initiated through judicial review. For future research, evaluating how these statutory devices influence program performance in relation to the components described above would be a useful exercise.

Conclusion

The legacy of environmental remediation in Michigan is complex, with legislative changes having occurred at various times over the past three decades. Since 1995, the Part 201 program has undergone a legislative contraction as key regulatory components have been restricted. This is impacted the way that liability is determined, cleanup requirements are assigned, and remediation efforts are facilitated. It is likely that the legislative legacy of the Part 201 program exacerbates current challenges of a lack of site information, stagnating cleanup spending, and an increasing number of contaminated sites. Without adequate regulatory controls, it becomes much more difficult to identify, investigate, act upon, and finalize the remediation of sites.

To address these shortcomings, I recommend the following policy changes:

- 1. Strengthen monitoring and reporting requirements through statutory requirements and capacity improvements.**

To increase accountability and follow-through amongst polluters, responsible parties must be obligated to disclose their remediation activities to EGLE. This would mean eliminating the self-implementation statute, which as currently written makes it unclear whether EGLE is required to verify cleanup standards for self-voluntary actions.



Additionally, EGLE must be provided with the funding and staffing capacity necessary to categorize sites by risks and compile statutorily obligated, annual reporting on all sites—regardless of state ownership. These reports should include all available data on remediation status and identified contaminants.

2. Expand liability and reduce allowable exemptions.

To better improve the funding and remediation functions of the Part 201 program, liability should be strengthened and the number of exemptions should be reduced. A strict, status-liability scheme, which is utilized by the federally managed Superfund program, should be adopted. Under this regime, potentially responsible parties are held liable together for the cleanup of Superfund sites. This means that each party can be held liable for the entire cost of the cleanup, regardless of their individual level of responsibility for contaminant release. Essentially, liability is imposed regardless of fault or intent, without the need for regulators to prove negligence or responsibility on the part of responsible parties.

Additionally, the preponderance to assign liability carve-outs to certain industries (e.g., condominium and wind energy developers) should be limited, as these undermines the regulatory authority of the program. Additionally, the exemption process for BEAs should be made to include more oversight measures, including site investigations.

3. Limit the utilization of institutional controls over full remediation.

While they can be effective in some settings, institutional controls (e.g., restrictive covenants) are limited in their ability to completely control for threats of future release. Thus, site conditions and the danger hazardous substances pose should be considered in impact valuations conducted by regulatory bodies—before institutional controls are pursued. Additionally, owners and operators with histories of repeated releases should be compelled to pursue full remediation.

4. Alter cleanup criteria, shifting away from land-use categories.

Michigan should return to its previously high cleanup criteria, which went above federal guidelines. Having the ability to alter criteria at the state-level is important, especially given the lag time between emerging chemicals and federal regulation (e.g., PFAS).

Additionally, land-use categories should be replaced with more flexible criteria. Land-use categories can be problematic for remediation efforts because they can limit the types of activities or land uses that are allowed on a contaminated site. In addition, land-use categories can be based on outdated or inaccurate information, which can hinder remediation efforts. For instance, a site that was previously used for industrial purposes may have been classified as "industrial" even if it has since been abandoned and is now used for residential or commercial purposes.

5. Develop a new fund for remediating contaminated sites.



Increasing liability thresholds and limiting exemptions will lessen the strain on program funding. However, for sites without identifiable ownership, the state will have to conduct remediation efforts. Since CMI funds are diminished, and because these “orphaned sites” constitute a large portion of Part 201 sites, a new general obligations bond or trust fund is necessary. To fund this initiative, revenues should be raised from highly polluting industries within the state, such as the automotive, chemical, oil and gas, mining, and agricultural sectors. These industries can be required to pay a fee or tax based on their level of pollution or the amount of hazardous waste they generate, which would then be used to finance the bond or trust fund for orphaned site cleanup.

By adopting these recommendations, it should be possible to ensure that the Part 201 program has the funding and staffing capacities, regulatory power, and effective structures to govern and protect Michigan’s natural landscape.

Appendix

Table 5. Full Results

Subject	PA 451	PA 71	PA 115	PA 380-384	PA 288	PA 252, 253	PA 227-234	PA 446	PA 141	PA 178	PA 258	PA 542	PA 471-476	PA 581
Definition of hazardous substances	0	-1	-1	0	0	0	0	0	0	0	-1	0	0	0
Definition of facility	0	-1	0	0	0	0	-1	0	0	0	0	-1	0	0
Cleanup criteria	0	-1	0	0	0	0	-1	0	0	0	0	-1	0	0
Owner/operator response activities	0	-1	0	0	0	0	-1	1	0	0	0	-1	-1	0
Remedial action	0	-1	0	-1	0	0	-1	-1	0	0	0	-1	0	-1
Aquifer cleanup	0	-1	0	0	0	0	0	-1	0	0	0	-1	0	0
Zoning of properties	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Carcinogen risk level	0	-1	0	0	0	0	0	0	0	0	0	0	0	0
Contaminated groundwater	0	-1	0	0	0	0	-1	-1	0	0	0	-1	0	0
Soil ex-situ remediation	0	0	0	0	0	0	0	-1	0	0	0	0	0	0
Baseline Environmental Assessment	0	0	0	0	0	0	1	0	0	0	0	-1	0	0
Claims for damages	0	-1	0	0	0	0	0	0	0	0	0	0	0	0
Liability and exemptions	0	-1	0	0	0	0	-1	-1	-1	-1	0	0	0	0
Liability costs/liens	0	-1	0	0	0	0	0	0	0	0	0	0	0	0
Public notice	0	-1	0	0	0	0	0	0	0	0	0	0	1	0
Due care obligations	0	-1	0	0	0	0	0	-1	0	0	0	0	0	0
Transfer of property interests	0	-1	0	0	0	0	1	1	0	0	0	1	0	0
Consent agreement	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Civil actions	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Restrictive covenants	0	-1	0	0	0	0	0	0	0	0	0	1	0	0



Covenant not to sue (CNTS)	0	-1	0	0	0	0	0	0	0	0	0	0	0	0
Civil penalties	0	1	0	0	0	0	1	0	0	0	0	0	0	0
Legislative intent	0	-1	0	0	0	0	0	0	0	0	0	0	0	0
Financial resourcing	0	-1	0	0	0	0	0	0	0	0	0	0	0	0
Risk/assessment/cleanup criteria models	0	-1	0	0	0	0	-1	0	0	0	0	-1	0	-1
Funding sources	1	-1	0	1	1	1	1	1	0	0	0	0	1	0
State orphan share remediation cost	0	1	0	0	0	0	1	0	0	0	0	0	0	0
Science advisory council	0	-1	0	0	0	0	0	0	0	0	0	0	0	0
Office of Environmental Cleanup Facilitation	0	-1	0	0	0	0	0	0	0	0	0	0	0	0
Citizens Review Board	0	-1	0	0	0	0	0	0	0	0	0	0	0	0
Administrative orders	0	-1	0	0	0	0	0	0	0	0	0	0	0	-1
Grant programs	0	-1	0	1	0	0	-1	1	0	0	0	0	1	0
Reporting	0	-1	0	0	0	0	-1	0	1	0	0	-1	0	0

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