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Case Study: The Crumbling Foundation Crisis in Massachusetts and Advocacy by Homeowners to Encourage a State Response

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Abstract

There are homes in parts of Western and Central Massachusetts with cracking foundations caused by a mineral called pyrrhotite. The issue was first discovered in towns bordering Connecticut, which first identified the problem. The crumbling foundation issue has the potential to develop into a large crisis for Massachusetts because of a large mineral vein located in the central part of the state. Advocacy by Massachusetts homeowners has so far not produced a measure that mirrors the response implemented in neighboring Connecticut. Local grassroots advocacy has many challenges to garner the attention of lawmakers when the area of concern is costly to those affected but overall, only affects a small percentage of the state's population. This case study focused on the work being done by one crumbling foundations advocacy group aimed to understand how small, complex issues legislation can successfully have passed. Research results suggest that Massachusetts homeowners need to be more consistent with their advocacy work, diversify the messaging, and deepen connections made with other organizations and business groups that have vested interest in the issue.

Keywords: pyrrhotite, homeowners, foundations, crumbling, crisis, Massachusetts, advocacy, grassroots, legislation

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Method

For homeowners experiencing the crumbling foundation of their home, it is a problem that has no easy solution. Homeowners are unable to claim the issue through their insurer or apply for bank loans in order to repair the damage. This means that for many homeowners, their only hope is to appeal to the state for financial assistance. Despite several years of advocacy by affected homeowners in Massachusetts, there has been no solution by state legislatures to provide aid to residents for the repair of their homes. Local town revenues and home values will be negatively affected if foundations cannot be replaced due to the high costs associated with foundation repairs and replacements. However, the number of people currently affected by crumbling foundations remains small. The known cause of this problem is a natural mineral called pyrrhotite that was mixed into the concrete aggregate and then poured into foundations. The goal of the case study was to address this question: is there progress being made towards the goal of the grassroots organization, Massachusetts Residents Against Crumbling Foundations, to have financial assistance to repair their foundations like the captive insurance agency established by the Connecticut legislation to replace foundations that are crumbling due to the same issue.

This case study focused on research of various topics related to the issue. Part of the process included reviewing the timeline from the first awareness of the problem in Massachusetts to current status of the problem. Examination of the history of the problem in the region, how lawmakers have responded in Massachusetts compared to the response by lawmakers with similar issues in other areas, and the grassroots advocacy work being done by homeowners in Massachusetts formed almost all the material for the study.

There is little formal research regarding the work grassroots organizations undertook to address crumbling foundations due to pyrrhotite by Connecticut homeowners and what made their campaign so successful in a relatively short amount of time. This case study has had challenges in comparing the advocacy done by Connecticut homeowners and the advocacy currently being done by Massachusetts homeowners. This meant that outside review of non-related advocacy campaigns was used to provide greater understanding regarding the process and work being done by individuals committed to a cause.

Because pyrrhotite is concentrated in many sections of the United States, there is the potential for homeowners in another region of the country to experience foundation failures. As of the writing of this paper, the federal government has yet to provide specific guidance regarding pyrrhotite as concrete aggregate or offer financial solutions to remedy the issue. This means that it will be up to individual states to make these determinations as they become aware of the issue. And it will be likely that it will be a small group of homeowners that bring this issue to the attention of legislators. Therefore, a case study that examines the advocacy being undertaken by a grassroots advocacy group in Massachusetts that has had minimal success is important for future understanding of not only the challenges small, localized issues have in getting assistance, but to also understand the process that most governments undertake when working towards solutions.

Literature Review

Background on the composition of pyrrhotite

In July of 2020, the United States Government Accountability Office (GAO) issued a report to several congressional committees regarding the crumbling foundation of homes in Eastern Connecticut and Central Massachusetts (*Crumbling foundations extent of homes with defective concrete is not fully known and federal options to aid homeowners are limited, 2020)*. This report provided context to a growing concern where homeowners had noticed that their home's foundations were increasingly becoming cracked (Figure 1). As those cracked lines expanded, the concrete itself would crumble. To repair these issues, homeowners were told that it would cost roughly $150,000-$250,000, as the home would need to be lifted off its current foundation to replace it (Bashaw, 2023). At the time of the publication, there were 1,600 known homes affected by the issues just within Connecticut, with the potential for the issue to increase by at least another 6,000 impacted homes with a potential of 35,000 homes ultimately affected (*Crumbling foundations extent of homes with defective concrete is not fully known and federal options to aid homeowners are limited, 2020* and *Crumbling foundations* Connecticut State Department of Housing). A late December 2019 report commissioned by the Massachusetts legislature found that at least 2,000 homes could be affected by the same crumbling foundation issue as seen in Connecticut, with the issue potentially expanding to over 20,000 homes since the mineral is also found naturally in many locations within the state (*Final report of the special commission to study the financial and economic impacts of crumbling concrete foundations due to the presence of pyrrhotite, 2019).*

The reason for these foundations to crumble is due to the presence of a mineral called pyrrhotite. Pyrrhotite is an iron sulfide mineral that has a higher solubility and oxidation rate when in the presence of oxygen and moisture than that of other iron sulfides from the same classification, specifically pyrite (Dipayan, 2022). When pyrrhotite is crushed up and mixed as part of concrete filler, the continuous exposure to moisture and oxygen causes the pyrrhotite to first expand, which will show as small horizontal or spider-like cracking in the foundation, and then later breakdown, demonstrated by crumbling typically within 10-20 years. Other examples noted by residents as the concrete deteriorated was a reddish-brown coloration, or a powdery-white substance near the cracks (Dipayan). The deterioration rate of pyrrhotite varies and is dependent on the level of exposure to water and oxygen but even concrete containing less than .03% of the mineral can threaten the overall effectiveness (Bashaw, 2023). Currently there are only two ways for homeowners to confirm if their home is affected by pyrrhotite. This is done through a visual inspection and core testing of the foundation (*Crumbling foundations extent of homes with defective concrete is not fully known and federal options to aid homeowners are limited, 2020*). The visual inspection is conducted by a qualified engineer confirms that the home has visible damage potentially caused by pyrrhotite. The second step in the process is the core testing. In this process core samples of the foundation are taken from both places where there is damage is visible and in places where there are no discernable issues. The samples are then analyzed in a laboratory to confirm that the foundation issues are related to having pyrrhotite present in the concrete. And although even a small concentration of pyrrhotite can cause damage, there currently are no guidelines from either the state or federal government on what is an acceptable amount of pyrrhotite in concrete, even though its affect in concrete has

been known and studied, in limited fashion, since the 1950's (Bashaw, 2023). The rate at which pyrrhotite deteriorates in concrete aggregate also depends on its level of water and oxygen exposure. But because of the long span of time before issues begin to appear, it is also challenging for experts to estimate how long it will be before the foundation fails altogether.

Pyrrhotite within Canada and Ireland and government response to the issue

Other countries also have issue with pyrrhotite, most notably in the Quebec Providence in Canada known as the Mauricie region and in and around the Dublin area of Ireland (*Crumbling foundations extent of homes with defective concrete is not fully known and federal options to aid homeowners are limited, 2020*).

In Canada, the issue first came to light in 2009, when it was discovered that homes built between 1996 and 2008 had pyrrhotite in the concrete aggregate. The government responded by creating a warranty program for all new homes built in Quebec. The plan required that these newly built homes, if found to have pyrrhotite in their foundation, would cover the cost of a full foundation replacement if it was found within the first five years. For homes that did not meet these criteria, a grant program to cover those homes would later be established. Within the first 5 years, the warranty plan had covered over 700 home which cost the government over $100 million Canadian dollars (*Crumbling foundations extent of homes with defective concrete is not fully known and federal options to aid homeowners are limited, 2020*). For the older homes that did not meet the grant criteria, several key developments on handling pyrrhotite by the Canadian government by 2019. The first was the appropriation of $4.9 million Canadian dollars to research pyrrhotite and develop a new level of standards to be used by the concrete industry (*Crumbling foundations extent of homes with defective concrete is not fully known and federal*

options to aid homeowners are limited, 2020). Another was a milestone in repairing of affected homes. Of the 4,000 suspected homes affected by pyrrhotite in that region, approximately 1,121 had received government assistance, either through the original warranty plan or through a grant program that was established in 2011(*Crumbling foundations extent of homes with defective concrete is not fully known and federal options to aid homeowners are limited, 2020*).

In Ireland, the concrete issue is not caused pyrrhotite, but its cousin, pyrite, another iron sulfide that acts in a similar manner to pyrrhotite. The issue first came to light in 2005 when home's infill materials that support slab foundations were cracking. Because the issue is the support mechanism to the slap foundations, repairs for this issue currently don't require the homes to be lifted. Not having to lift the home means that the overall cost for repairs is significantly less than what homeowners in Massachusetts and Connecticut are quoted. (*Crumbling foundations extent of homes with defective concrete is not fully known and federal options to aid homeowners are limited, 2020*). Nevertheless, the Irish government has responded by helping to fund what they call a Pyrite Remediation Scheme (*Crumbling foundations extent of homes with defective concrete is not fully known and federal options to aid homeowners are limited, 2020*). The program not only provides funding for the repair and rental costs for families that are displaced for the duration of the repair work, but also establishes updated housing guidelines and building standards that determine what an acceptable limit of iron-sulfides could be found in the overall concrete percentage (*Crumbling foundations extent of homes with defective concrete is not fully known and federal options to aid homeowners are limited, 2020*).

Pyrrhotite with the United States. Specifically, Southern New England

To better understand how extensive this mineral is within the United States, a geographical survey completed and included by GAO as part of their report in 2020 (Figure 2). While there are concentrated pockets of pyrrhotite all over the United States, it doesn't necessarily mean that there are quarries in those areas. However, if there are quarries near the pyrrhotite concentrations it could mean that potentially the problem could become a national issue rather than a regional one. For the New England region, the survey showed a pocket of pyrrhotite beginning in eastern Connecticut, running northward into central Massachusetts towards southern New Hampshire (*Crumbling foundations extent of homes with defective concrete is not fully known and federal options to aid homeowners are limited, 2020).*

The issues with pyrrhotite in concrete for Connecticut and Massachusetts residents began in the early 1980's. A Connecticut based concrete company called J.J. Mottes began using aggregate sourced from Becker's Quarry in Willington, CT. Willington happens to lie in an area that is situated directly within the GAO survey of potential concentration of pyrrhotite naturally found in the soil. The company's unintentional use of aggregate began in 1983 and continued until 2015 when Connecticut's Attorney General's office identified J.J. Mottes Concrete and Becker's Quarry as the source for crumbling foundations (*Crumbling foundations extent of homes with defective concrete is not fully known and federal options to aid homeowners are limited, 2020; Bashaw, 2023).* Initial estimates of potentially affected towns in Massachusetts only focused on a 20-mile radius from the quarry, which would account for part or all of 19 surrounding towns most at risk of being affected (Figure 3). However, because concrete can be transported for approximately 90 minutes, the range of potentially affected homes is actually

about 40 miles from the quarry. This means that an additional 13 towns could be at moderate risk of having homes with a crumbling foundation (*Final report of the special commission to study the financial and economic impacts of crumbling concrete foundations due to the presence of pyrrhotite, 2019).*

Recently, a map from the local resident group Massachusetts Residents Against Crumbling Foundations information website shows towns with at least one home with a positive report of pyrrhotite in their foundation well beyond the 40-mile radius of the original report (Figure 4). Suggesting that the issue within Massachusetts may prove to be potentially more extensive than what has been found in Connecticut (Massachusetts Residents Against Crumbling Foundations, 2023).

Background Information

To best understand the current plight of Massachusetts residents with this issue, we need to first look at the struggles faced by Connecticut residents as they pushed for solutions as, Massachusetts residents have followed similar steps undertaken by Connecticut homeowners.

Lack of support at the federal level

A report completed by the Federal Emergency Management Agency (FEMA) stated that the only way to successfully remedy the issue was to have the home lifted and remove the existing foundation completely and then replace all the concrete. As noted earlier, estimates to repair these foundations ranged between $150,000-$250,000, in addition to costs associated with homeowners having to move out of their homes for several months while repairs take

place (Bashaw, 2023). This means that the actual scope for the repair goes beyond just the foundation. To avoid the disruption of lifting the home, some homeowners have tried to repair the cracks as they appear by shoring up the existing foundation with a new internal wall. But these solutions are only a short-term solution and ultimately don't correct the foundation issues (Bashaw).

FEMA also determined that the issue did not meet the requirements of the Stafford Act, so, the Federal Government would not be able to provide any financial support by way of a federally backed insurance program (*Connecticut's crumbling concrete,* n.d.). Additionally, neither the FEMA report nor the GAO report provide states with any guidance as to determining what an acceptable amount of pyrrhotite could be in concrete aggregate. Nor has there been any guidance or regulatory process for testing aggregate by quarries or concrete companies before the mixture has been used (Bashaw, 2023). This lack of regulation is why a quarry such as Becker's and a company such as J.J. Mottes were able to use the material for over 30 years despite homeowners reporting issues to the state earlier than 2015, when the issue began to gain significant traction. The United States government could have adopted policies similar to Canada's, in which they issue guidelines against using iron sulfides in concrete aggregate as early as 1973, or even used the international standard adopted in 2003 regarding iron sulfides in concrete aggregate (Bashaw).

Action undertaken by homeowners

Connecticut and Massachusetts residents tried to have their foundations repaired through their homeowner's insurance but found insurance companies were not required to cover the cost of repairs since the disintegration of pyrrhotite containing concrete happens over

time and therefore doesn't meet their definition of a collapsing home. Residents in Connecticut did file lawsuits to try and force insurance companies to cover the costs, but the Connecticut Supreme Court ruled in favor of the insurance companies, saying that due to the ambiguity of the wording within the policy and applying the definition of "collapse", the homes in question weren't in immediate danger of collapse since the issue was slow-moving , and therefore insurance companies were not required to cover the cost of repairs. (*Karas v Liberty Ins Corp, 2019).*

The next possible point for homeowners was to try and sue J.J. Mottes for negligence and harm. But to prove this, the homeowners needed to be able to prove that the company knew that their concrete was faulty and purposely sold the product. Because of the distinct lack of regulations at the state and federal level, the court ruled against the homeowners (Bashaw, 2023). Some homeowner sought to try and pay for the repairs themselves by taking out additional loans. However, if it is disclosed during the bank required home appraisal that the foundation is failing, homeowners are unable to secure second mortgages or home equity loans to cover the cost of the repairs because the home has become devalued due to the failing foundation (Keane, 2024). Some homeowners take on the burden of repairing their home by borrowing the funds from their retirement savings (Keane, 2024). For most homeowners in this situation, their only true recourse to resolve this issue is to have financial assistance from the state.

By 2016, a small group of Connecticut residents formed the Connecticut Coalition Against Crumbling Basements. Using a grassroots approach, this group of homeowners held information sessions and rallies to bring awareness to their cause. They also spent time at the

state capital meeting with lawmakers and the governor to discuss the problem (Bedner, 2023*)*. Ultimately, the success of the Connecticut Coalition Against Crumbling Basements inspired a group of residents that also had homes built with concrete foundations poured by J.J Mottes in Massachusetts to start their own group with the hope that they too could receive financial support to remediate this issue.

About the Organization

The Massachusetts Residents Against Crumbling Foundations is a grassroots organization founded in early 2018 by a resident whose home is affected by the crumbling foundation issue. Monson, Massachusetts proximity to Becker's Quarry in Willington, CT is within the 20-mile radius of the quarry, showing that Monson is one of the CT/MA border towns most at risk for potential foundations issues (*Final report of the special commission to study the financial and economic impacts of crumbling concrete foundations due to the presence of pyrrhotite, 2019).* The goal of the group is to spread awareness of the issue, primarily through an information program, including public forums, with the most recent one in Rutland, Massachusetts in 2022 (Massachusetts Residents Against Crumbling Foundations, 2023).

As part of their advocacy, The Massachusetts Residents Against Crumbling Foundations maintains a website that contains links for people interested in learning more information, links to resources for engineers and companies that specialize in core testing, and events that the organization has hosted (Massachusetts Residents Against Crumbling Foundations, 2023). The group also has a Facebook page that shares information related to their work advocating for this issue. The Facebook page is more active and contains more recent information than their

website and is available via key word search on the social media site. As of March 2024, there are approximately 1700 members of the page. The organizer of the page routinely posts recent news articles and fields questions asked by members of the group who are trying to determine if they too have foundation issues related to pyrrhotite.

The Challenge

Since 2019, the main goal of the group is to have legislation passed that would directly allow for homeowners to have financial support to repair their foundations. Currently known as bill S2559, it has not moved beyond the committee stage in the process. The same was true with its predecessor bill, S2804 which was filed during the 192nd Massachusetts legislative session. The failure of the bill to pass could be attributed to several reasons.

Community involvement is underperforming

First is the lack of community involvement at any sustained level. While there are several homeowners that participate in advocacy of the issue and are instrumental in educating and lobbying legislatures, the overall number of participants is small. Homeowners are often unwilling to formally acknowledge that they have an issue with their foundation. The grassroots organization in Connecticut experienced a similar issue with residents there. People with affected homes didn't want to come forward because they were concerned that by admitting they had a problem, they would experience a loss in value of their property (Bedner, 2023). There are many reasons to suppose why homeowners don't initially report these issues, some are in outright denial about their situation, which is a natural response to an overwhelming or stressful situation (Cherry, 2023). And while denial has its purpose for coping, homeowners that

refuse to address the situation prevent the organization the necessary data to present to legislators that the crumbling foundation issue is expanding beyond what was originally estimated in the Massachusetts' report back in 2019. Although there is little research on why Massachusetts Residents Against Crumbling Foundations has small support, there is research on the challenges advocacy groups face generally and why people don't acknowledge that their homes are affected with pyrrhotite. One reason for a lack of participation is the messaging from the group. Messaging of information often comes from social media. While this can be an effective tool in quickly spreading information, it lacks the humanization factor needed to inspire participation and change people's opinions about supporting and promoting advocacy on their own. (Samual, 2007). Another issue that often arises in other grassroots organizations occurs when key people leave the advocacy work due to burnout. This reduces the ability for the group to rely on experience and knowledge to continue their messaging (Dana, et.al, 2021).

Scope of the issue is small and potentially expensive

Another major point of challenge for getting the legislature to move forward is the scale of the problem. Currently, the scope of this issue as it is currently known is quite small. There are 351 towns in the state of Massachusetts. Based on the 2019 report, 33 towns were identified as either having homes that were positive for pyrrhotite or had home built within the timeframe where J.J. Mottes could have been the provider of the concrete and reside within 20 and 30 miles from the quarry. If the state were to just concentrate on the towns built within the 20 miles, this would be 20 towns and approximately 20,000 homes (*Final report of the special commission to study the financial and economic impacts of crumbling concrete foundations due to the presence of pyrrhotite, 2019)*. This equates to roughly 5.7% of Massachusetts towns. If

we include the 13 additional towns that are within the 30-mile radius of the quarry, this will equate to 9.4% of the towns in Massachusetts that potentially could have homes with a crumbling foundation. On the Massachusetts Residents Against Crumbling Foundation webpage, they have a map of homes that include towns where the state home have tested positive for pyrrhotite. These homes are concentrated in the central part of the state. However, there is a lack of information on the website that states where they have received this information, and it could not be corroborated.

Calculating the financial cost of this issue is particularly important, not just for the overall cost of repairs, but what the financial costs for towns that provide homeowners abatement and reassessment of property taxes. In the 2019 Massachusetts report, their calculations were based on a formula established in Connecticut. Because there is no database where sales of homes with known crumbling foundations are being tracked, Connecticut created a model based on the deterioration of the foundation which is based on the visual inspection by the assessor. The percentage of deterioration corresponded to the reduction in home value. Meaning, that a property with an assessment that 20% of the foundation was compromised resulted in a 20% loss in home value (*Final report of the special commission to study the financial and economic impacts of crumbling concrete foundations due to the presence of pyrrhotite, 2019).* In Connecticut, this meant that the average affected homeowner lost about $90,000 in property value once they were reassessed in 2019 (*Final report of the special commission to study the financial and economic impacts of crumbling concrete foundations due to the presence of pyrrhotite, 2019).* If we were to use Connecticut's average just to get a sense of the potential property value lost by Massachusetts residents, the average loss, which

adjusted for inflation equals $110,957[1], provides a worrying benchmark for Massachusetts homeowners. While individual loss in property values is high, the overall loss of tax revenue for a town would be a smaller percentage overall. As noted in the report, the affected town of Longmeadow, Massachusetts only saw .5% of property tax revenue lost in FY2019, which equated to approximately $250,000 of their budget (*Final report of the special commission to study the financial and economic impacts of crumbling concrete foundations due to the presence of pyrrhotite, 2019).*

Short term, the issue does not yet potentially affect town budgets significantly enough to warrant more concern. However, town budgets have the potential to be continually impacted as more and more homes are tested for suspected foundations issues due to pyrrhotite. The GAO study noted that some town officials in Connecticut were concerned that being known as an area with 'bad homes' could discourage people from moving to the town or could cause residents to leave (*Crumbling foundations extent of homes with defective concrete is not fully known and federal options to aid homeowners are limited, 2020*). Since there are no known databases currently available to the public, it is hard to have definitive proof that the issue in Massachusetts is expanding beyond the initial towns highlighted in the 2019 report. The Massachusetts Residents Against Crumbling Foundation webpage shows a map of towns not mentioned in the report as having homes with foundations positive for pyrrhotite. The information could not be confirmed independently since their website doesn't state where

[1] The inflation calculation was created by calculating the rate inflation rate beginning January 2019 to February 2024, which the most current rate available. Inflation calculator used was provided by the U.S. Department of Labor https://data.bls.gov/cgi-bin/cpicalc.pl

they've received this information. Nevertheless, because the group has received this information in some way and because this information is not widely available to the public, state legislatures should consider commissioning a second report regarding the crumbling foundation issue to see how many new communities are now affected. This new report could then recalculate the overall cost of loss of tax revenue and cost of home repair for the residents.

Bills filed on the issue fail to gain traction

The bill itself presents another challenge. First filed during the 191st Massachusetts legislative session, House bill, H3593, was jointly filed by State Representative Brian Ashe and State Senator Anne Gobi. Ashe and Gobi, whose districts included the towns that were known to have foundation and suspected crumbling foundations due to pyrrhotite, were one of the first legislatures that responded to the crisis raised by homeowners. H3593 established a special commission to determine the extent of the pyrrhotite in concrete situations in relation to the areas most affected by potential concrete poured by J.J Mottes from Stafford, Connecticut. This bill allowed for a committee to study the impacts of pyrrhotite affected homes and allowed for members to interview scientists, professionals in the industry, and affected residents (*Final report of the special commission to study the financial and economic impacts of crumbling concrete foundations due to the presence of pyrrhotite, 2019).* The success of the report led to the filing of a bill during the 192nd Massachusetts legislative session by Senator Anne Gobi. Gobi first files a bill, known as S548, in March of 2021, which was referred to the Environmental, Natural Resources and Agriculture committee in March of 2021. A hearing for the bill was held virtually in January of 2022 and by April of 2022 it was referred to the Senate Ways and Means Committee, which was then known as S2804. (*An act addressing crumbling concrete*

foundations, 2022) S2804 had no hearings for the bill, and no action was taken on the bill by the time the legislative session ended.

Because the 192nd legislative session had ended with no resolution, a similar bill was filed by Anne Gobi yet again at the start of the 193rd Massachusetts legislative session. This bill, known as S495, was once again referred to the Environmental, Natural Resources and Agriculture committee in February of 2023, and a hearing on the bill was held in April of 2023. Anne Gobi has since left the Massachusetts Senate for a position in Massachusetts Governor Maura Healy's office. Nevertheless, S495 was referred to the Senate Ways and Means Committee in January of 2024 and is currently known as S2559 (*An act relative to crumbling concrete foundations, 2024*). There have been no updates to the bill page to show any upcoming hearings nor has it been reported out of committee at this time. The 193rd legislative session is scheduled to end on December 31st of 2024.

There has been a recent increase in local news agencies reporting on the issue. Towards the end of March 2024, news agencies, including Boston stations, published several stories regarding homes having pyrrhotite in foundations, and focused on the story of one homeowner who was currently paying out of pocket for the foundation repairs for their home in Rutland, Massachusetts. The stories focus on how homeowners can't have the costs be covered by insurance and that they cannot secure bank loans because the value of the home has decreased due to the issue (Simmoneau, 2024 and Keane, 2024). This cycle of a flurry of news stories on the issue has happened in previous years with very little response from legislators whose districts are not directly affected by the issue.

However, lawmakers quoted in recent stories gave no timeline as to when the issue would be debated within the Way and Means Committee. This means that advocacy groups will need to evaluate their strategy to try and get increased legislative support for getting the bill to the floor for debate. Homeowners should look to larger national new agencies, such as the New York Times, for new stories on the topic. Increasing the visibility of the issue again in a national setting places more pressure on the state to respond.

The Solution

Deepening grassroots advocacy

Grassroots advocacy at its core is a value-driven process that empowers local people to champion ideas or polices that ultimately influence changes in laws (Samual, 2007). Typically, grassroot advocacy is working to realign unfavorable power dynamics and return power away from large interests to the public. Any grassroots advocacy first needs to outline their goals and plan for achieving those goals with other members of the community and be honest regarding the challenges that they will face (Dana, et. al, 2021). There should be direct participation by other stakeholders in this process. For the crumbling foundation group, key stakeholders include the Massachusetts Relator Association and local government officials. This means that the first key steps should be developing relationships between advocates, stakeholders, and then legislatures. The most important relationship to develop is personal connections between the advocate and the legislature official (Jackson, 2000).

Massachusetts residents also need to expand their advocacy beyond working with affected homeowners and include homeowners that are not affected by the crumbling

foundations. Including more robust public participation is part of the regular democratic process. And while including more individuals to participate advocating for the cause, so will the opposition to the passing of legislation. The debate that public policy brings during this process will ultimately allow for the policy to pass simply because there are more people involved with voicing their preferences (Rydin & Pennington, 2000).

Understanding Incremental theory approach to policy making

Advocates also need to see that their advocacy work is, in fact, making strives within the legislative process even when their desired outcome has not yet been achieved. Advocacy groups would do well by learning about the overall process most legislatures take when working on an issue. The most common practice that legislators often take towards the handling of a problem is an approach known as an incremental approach. Incrementalism is a legislative approach where lawmakers use a series of small changes to already existing policies. It is a way of dealing with complex issues along the margins of the issues with a series of approximated moves (Bailey & O'Connor, 1975). The support by theorists suggests that an incremental approach reduces the possibility of unintended consequences and its success for creating policy is done by learning what each small step produces as a natural consequence (Levmore, 2010). The challenge with an incremental approach is in how the public views the situation. The public sees an incremental approach as one where legislatures aren't taking the issue seriously enough to produce the desired outcome. The result is that grassroot organizations may in time become fractured in their approach in advocating for the solution where opposing ideas from fracture groups end up reducing their effectiveness (Levmore, 2010). It would be in the best interest of

any grassroots organization to see any incremental improvements as improvements and work hard at keeping in mind the main goal of the group.

There are examples of the process with the crumbling foundation issue. Looking at the policies already enacted in relation to the issue we can follow the incremental pattern. Connecticut lawmakers created a series of acts that could be seen as an incremental approach. Starting in 2016, they enacted a policy that investigated the cause of reported concrete failures, maintains records related to foundation failures, and requires a certificate of occupancy the builder must supply information as to which quarry they obtained the concrete for that structure (*An act concerning concrete foundations, 2016*). In the following year, the governor of Connecticut introduced a bill for the allocation of $5 million to study and reimburse homeowner that tested foundations (*Gov. Malloy announces state funding to conduct foundation testing for homes in northeastern Connecticut*, 2017). Later, the state passed for their FY2019 a bill that allocated funds towards a captive insurance program to provide financial assistance to homeowners to repair foundations (*An act concerning the state budget for the biennium ending June 30, 2019, making appropriations therefor, authorizing and adjusting bonds of the state and implementing provisions of the budget, 2018).* What makes Connecticut unique is that legislatures may have created small pieces of legislation to deal with the crumbling foundation issues, but they did so within a short span of time, deciding against waiting for data that confirmed their belief that the issue was expanding. Success of the program can be seen since the passing of the bill, with close to 900 homes having been repaired in the state since 2019 (Grahn, 2024).

Similarly, Massachusetts legislatures have followed an incremental approach to the situation. It begins with the Massachusetts commissioned report on crumbling foundations in 2019, followed by the bill that allowed for homeowners to be reimbursed for the expense of having a visual home inspection and core testing completed to determine if their home is positive for pyrrhotite (*An act relative to crumbling concrete foundations, 2022*). The most recent legislative budget included a provision where all quarries in Massachusetts must test and report their aggregate and within the provision include guidelines that determine the acceptable amount of pyrrhotite may be allocated within the concrete mixture FY 2024 budget (*An act making appropriations for the fiscal year 2024 for the maintenance of the departments, boards, commissions, institutions, and certain activities of the commonwealth, for interest, sinking fund, and serial bond requirements, and for certain permanent improvements, 2023*).

The difference between the response from Massachusetts legislators in comparison to the response from Connecticut legislators can be attributed to timing. The COVID-19 pandemic that began in March of 2020 shifted the focus of the Massachusetts legislative body away from foundations as it dealt with the necessary response to the pandemic. Additionally in the past year, the state has been dealing with a housing crisis that required a request by Governor Healey for an additional $4 billion dollars (Solis, 2023). Currently there is no public database provided by the state that shows the location of homes where the foundations were found to be positive for pyrrhotite. Nothing in the bill for reimbursement states that companies that are contracted to core test these homes must provide data to the state. Nor is there a public facing page to show how many homeowners have applied for and received reimbursement and where those homeowners that are applying for reimbursement come from. The lack of data being

collected at the state level severely limits homeowners from successfully advocating and proving through using data, that the problem is expanding beyond the original scope. The Massachusetts Residents Against Crumbling Foundations Facebook page recently has shown images with homes being lifted for foundation repair work in towns that were not listed in the 2019 report. However, if data isn't being collected by state agencies, the information is easily dismissible.

Expanding messaging through new platforms

The Massachusetts Homeowners Against Crumbling Foundations group should consider crafting a social media campaign that shares their stories and spreads awareness. While many homeowners within the group may not be social media savvy, they could reach out to local high school and college students who are skilled at bringing awareness to issues and promoting local causes. The use of social media potentially connects homeowners who aren't affected by the crumbling foundation issues but also gives affected homeowners the ability to address opposing arguments so long as they do so with data and examples. Consistent messaging is key. Being able to home in on the most common of opposing arguments and crafting responses to those arguments through their social media campaign lays the groundwork when meeting with legislators whose districts aren't directly affected.

The homeowner advocates that are leading the charge in addressing and advocating to lawmakers should consider two main avenues to help advance their concerns. One, they should establish relationships with the companies that currently provide core testing services and create a dialogue where they receive information whenever a home is testing within Massachusetts for pyrrhotite. The information would only need to contain what town or city the

home is in and whether the core tested foundation was positive for pyrrhotite. Collection of this data by the group could then be presented to lawmakers at both the local and state level. This is particularly important at the local level, because of the needed added pressure by local governments to appeal to the state to request assistance and guidance to deal with the issue. Providing this information to state lawmakers strengthens the argument that the state is dealing with a crisis that will negatively affect the state if nothing is done.

The other route for homeowner advocates is to appeal to lawmakers to add and or make changes to the current existing legislation on reimbursement. The amendment could request that information be collected on homeowners who apply for reimbursement for their foundation inspection and core testing. Additionally, as quarry and concrete companies begin testing and reporting on the level of pyrrhotite existing at quarry sites, advocates should consider requesting lawmakers to consider holding a second inquiry on the crumbling foundation issue. Since there are known homes outside the original scope of the 2019 report, having an updating analysis of the issue would update the estimated number of homes with the issue, estimated cost for loss of property tax revenue, and overall potential cost to the state. The challenge is convincing both legislators and Massachusetts residents whose homes aren't affected that this issue is also in their best interest.

There is no guarantee that any additional advocacy campaign will ultimately be successful during this legislative session. It is important to remember that advocacy, especially at the grassroots or local level, takes longer because they are a small operation. However, with increasing press coverage, and if homeowners continue to concentrate their work on spreading information and awareness on the issue, legislatures will continuously be required to explain

how they plan on responding to the problem. Increased public awareness and increased media reporting, coupled with pressure from industries directly and indirectly tied to the problem, will pressure the state to release additional guidelines. So long as this advocacy group continues with a sustained campaign demanding that the state do something to help its residents, lawmakers will be forced to respond. Either they continue their process of using an incremental approach to the issue by amending or creating a smaller piece of legislation that focuses on one small portion of the problem.

Conclusion

This case study looked at how grassroot advocacy can be successful in getting legislation passed even when the cause is small in scope. Grassroot advocacy might begin with the general idea that a specific problem needs a solution. The organization may believe that they have the best solution, but what is lacking are the details in their planning process on how to ensure that the campaign is successful. Small local issues often lack the necessary support needed to get legislation passed, so they must rely on their ability to spread awareness through information sessions and stories written by news agencies as their best sources of getting their concerns addressed. Successful grassroots advocates also cultivate relationships with other sectors of industries that have the potential to be affected by the issue. These relationships are crucial because they provide industry support to the issue and have the potential to provide financial support to the cause through their own interest groups.

There were limitations within this case study. There have been no recent studies or academic papers that looked at the reason why Connecticut homeowners were so successful in

getting the legislature to pass measures that helped to finance crumbling foundation replacements. This limited the study from being able to compare their success with the advocacy happening in Massachusetts. Data collected and published by the state was another limitation of the study. While the Massachusetts Homeowners Against Crumbling Foundations have circumstantial evidence available on their website and Facebook page, that information could not be corroborated by looking at data from state agencies. Simply put, the lack of data being gathered by the state is hindering the ability of homeowners to gain increased support on the funding to replace these crumbling foundations. Increasing support by both affected and nonaffected communities along with legislators from those communities are vital to the passing of any meaningful legislation.

The crumbling foundation issue as it currently exists in Massachusetts is an underreported issue that has the potential to expand into a major financial crisis for the state. While the state did compile a report analyzing the issue in 2019, the report has not been updated to include towns that have homes that have become positive for pyrrhotite within their foundations. The report also should be updated to include the potential financial loss facing homeowners, local government, and the state should these homes not get repaired. For many homeowners, the only true remedy is for financial assistance by the state in repairing their home. The Massachusetts advocacy group mirrors many of the goals to those championed by homeowners in Connecticut. The Connecticut system is the establishment of a captive insurance group that handles all claims and after homeowners complete the requirements for financing their home foundation repair. The program is funded through allocation of funds provided by the Connecticut legislature as well as a $12 surcharge on each Connecticut resident’s insurance

policy (*An act concerning the state budget for the biennium ending June 30, 2019, making appropriations therefor, authorizing and adjusting bonds of the state and implementing provisions of the budget, 2019* and *An act imposing a surcharge on certain insurance policies and establishing the healthy homes fund, 2019)*. Progress towards the organization's goal of having legislation that outlines the financial system implemented by the Connecticut legislature has been hindered by the COVID-19 pandemic and the subsequent crises that have arisen because of the pandemic. An argument could be made that should the state fail to address the issues that crumbling foundations create for residents, that there is the potential of not only falling average house prices, but that residents may decide to exit the state because of the financial fallout of having a home that is deemed worthless without costly repairs.

The main homeowner advocacy group, Massachusetts Homeowners Against Crumbling Foundations, has had some success in getting measures passed that include reimbursement for testing of their homes and the requirement for quarry companies to test and report pyrrhotite, but they have yet to be successful in their request for financial help in repair their homes. The group should, however, see that their advocacy work has made progress by understanding that Massachusetts legislators have taken an incremental approach to this issue. The group also struggles with convincing affected homeowners to participate in the necessary process of advocacy. Participation by affected homeowners as well as nonaffected homeowners could increase through a campaign where the group begins to invest heavily in the usage of social media platforms beyond their current use of Facebook to spread awareness and share the stories of people that are affected by the issue. They must also be prepared to respond to opposition groups and plan for justification where the opposition many argue against, including

the establishment of more regulation on quarries, insurance groups, home inspections, and financial assistance for the repair of homes. Being prepared to counter those arguments with facts and examples of the harm that failing to respond brings, strengthens the overall messaging of the group and places added pressure for legislators to act.

As with any localized, grassroot organization, most of the advocacy is handled by those most affected and their supporters. But advocacy on crumbling foundations, or any issue, should not be limited to just a few. They often lack the funding or influence necessary for the cause to gain any traction. To increase support and influence, other outside support is necessary. Specific to the crumbling foundation issue, advocates will need to lean on homeowners' associations, real estate organization messaging and town administrators to help expand the message that their industries and organizations will be impacted as the issue expands into other areas of the state. Organizations could also provide funding for independent data analysis that not only corroborates homeowner's claims that the issue is expanding, but also examines how the issue is currently affecting property values, home sales in affected towns, and tax revenue. This kind of data is highly needed by the state for legislators to better understand how the lack of movement on helping to finance repairs is affecting different areas in the state.

When a grassroots organization works cohesively to plan and prepare awareness campaigns, has consistent messaging, and engages outside partners to support their cause, the issues at the forefront of their advocacy work have the potential to reach their goal in any legislature. Small grassroot organizations need to stay educated on upcoming strategies to maintain messaging and awareness and stay consistent with meeting up with legislators and

allies of outside organizations and interest groups. For this homeowner group, progress in obtaining a bill that helps to fund foundation repairs has slowed, but the legislators have been receptive towards making small adoptions. This example should encourage homeowners to continue their work and understand that their advocacy is paving the way for continued potential success for small issues that plague a portion of residents.

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Figures

Figure 1

Pyrrhotite damage in a Basement and a Home Lifted Off its Foundation for Repairs, n.d.

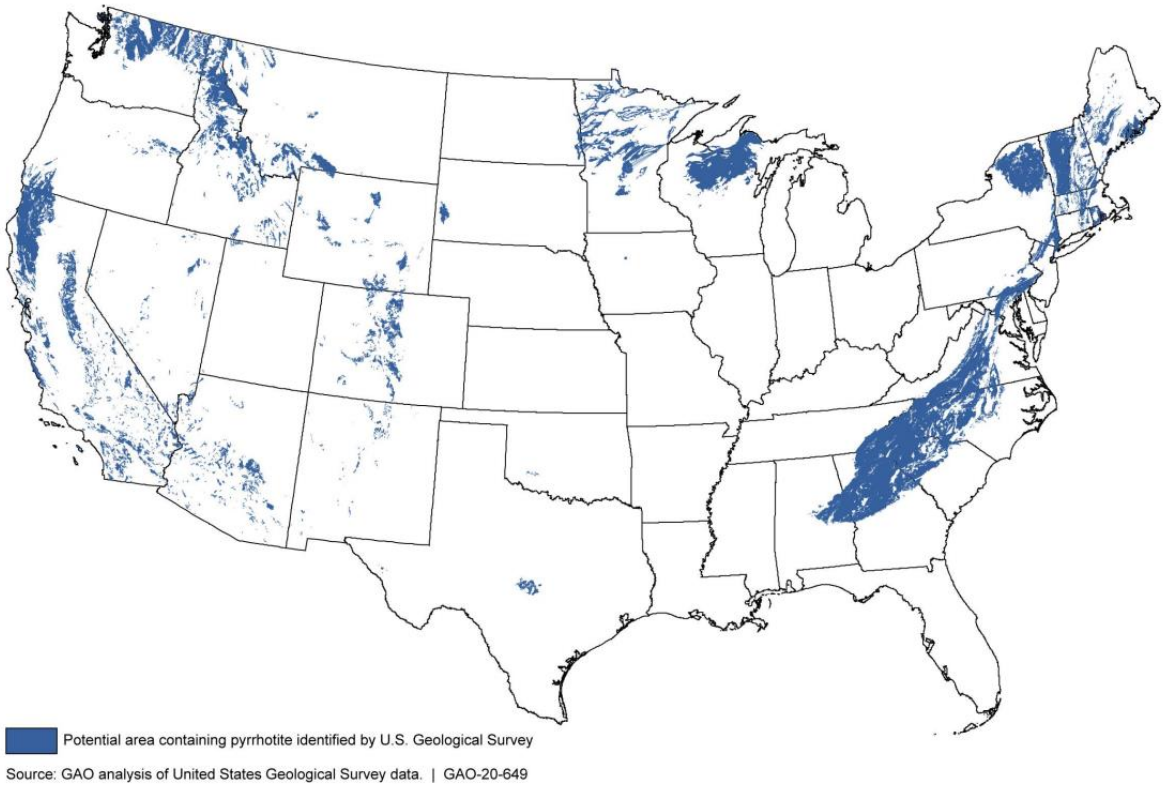
Source: GAO. | GAO-20-649

Source: GAO. | GAO-20-649

Source: United States Government Accountability Office. (July 2020)

Figure 2

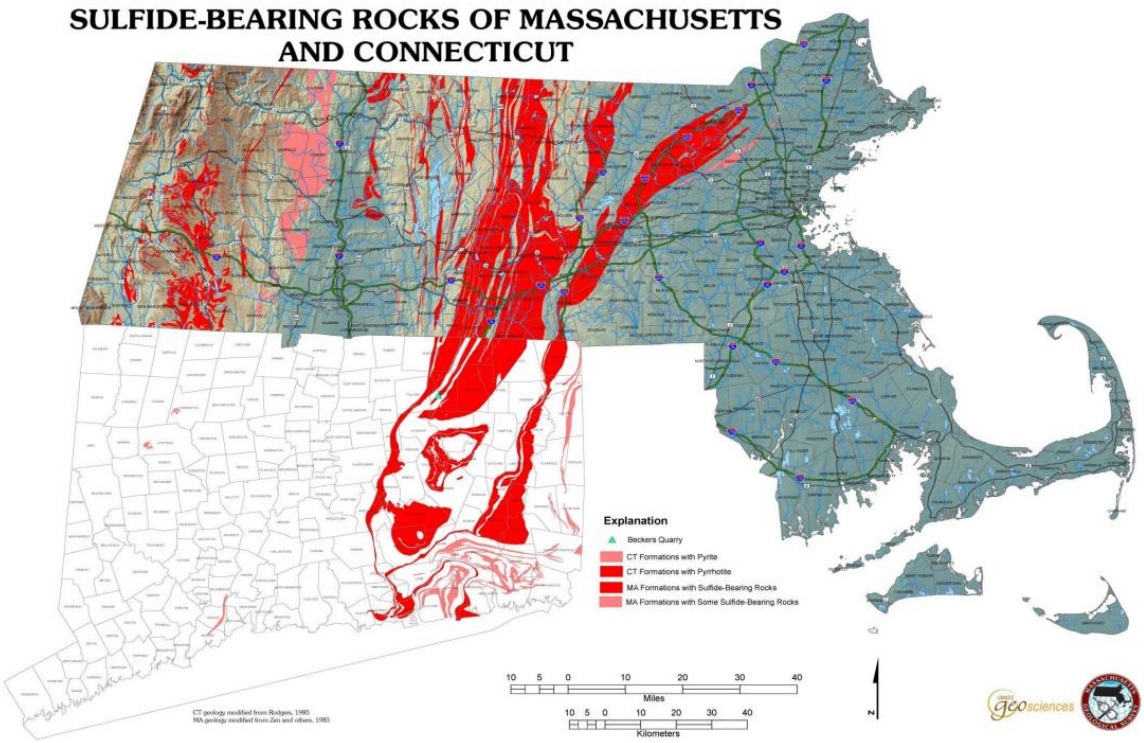
Map of Potential Pyrrhotite Locations in the United States



Source: Source: United States Government Accountability Office. (July 2020)

Figure 3

Map of Pyrrhotite in Connecticut and Massachusetts

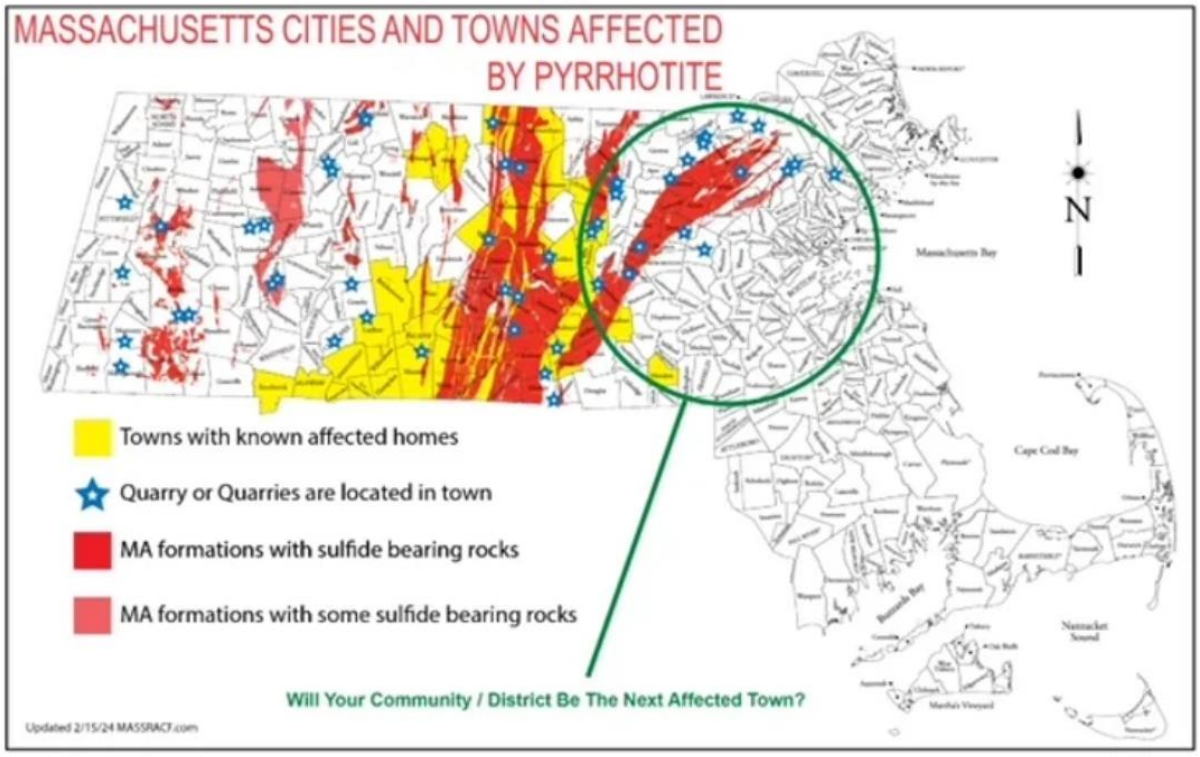


Source: *Final report of the special commission to study the financial and economic impacts of crumbling concrete foundations due to the presence of pyrrhotite* (2019)

Figure 4

Map of affected Massachusetts towns

Note: Unknown where the group has gathered this source information. Information is not part of public records.



Source: Massachusetts Residents Against Crumbling Foundations (n.d.)