



# MSI PROGRAM SUMMARY REPORT Fiscal Year 2022

## Pennsylvania DEP

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# REPORT

## Purpose and Authority

There is a great potential for mine subsidence in Pennsylvania and more than a million structures are located over or near mine voids. Mine subsidence events cause millions of dollars of damage to properties in Pennsylvania annually. In spite of this, damage caused by mine subsidence was excluded from standard property and casualty insurance coverage (homeowner policies) in the late 1950s. The primary reason for the exclusion was because the private insurance industry was unable to independently offer mine subsidence coverage at affordable premiums.

The financial security of individuals and the economic vitality of communities are adversely affected if coverage against a known risk cannot be affordably purchased. Real estate values will become depressed as loans collateralized by real estate, which normally require insurance to cover physical damage as a condition of the mortgage, become unavailable.



**Figure 1.** Example of a structure in Pennsylvania damaged by mine subsidence.

The Coal and Clay Mine Subsidence Insurance (MSI) Fund (Fund), Program (Program) and Board (Board) were created by the Act of August 23, 1961 (P.L.1068 No. 484), as amended, (52 P.S. §§ 3201-3225) (Act). They were established to provide the owners of structures located in Pennsylvania with a reliable and affordable source of compensation for losses caused by mine subsidence, which is movement of the earth's surface that results from the collapse of underground coal and clay mines.

*There is great potential for mine subsidence in Pennsylvania and more than A MILLION structures are located over or near mine voids.*

The Fund is proprietary and must be used exclusively for the payment of claims and the administration of the Program. It consists of pools of monies that are retained and invested by the State Treasury. Sufficient balances are maintained in the Fund to pay for the administration of the Program, to compensate subscribers for insured losses and to provide prudent reserves against potential catastrophic losses. The Program is implemented through the Department of Environmental Protection (DEP), which maintains a repository of underground mine maps and has the geological and mining engineering expertise to affordably investigate mine subsidence damage claims. DEP has also developed the capabilities needed to economically operate the Program using contemporary technology. The Board consists of the Secretary of DEP as chair and the Insurance Commissioner and State Treasurer as members. Collectively the Board has the authority and expertise to establish policies that provide for the efficient and effective administration of the Program and the financial expertise to manage the Fund.

## Overview

Together, the Fund, Program, and Board successfully implement the purposes set forth in the Act. Since its inception in 1961, the Fund has always provided a reliable and affordable source of compensation for insured losses. By the close of business in State Fiscal

Year 2021 - 2022<sup>1</sup>, claim payments made by the Fund throughout its history had exceeded \$40.7 million. The Fund is financially solvent and normally maintains a positive cash flow. Independent actuarial consultants estimate that its reserves are sufficient to cover both routine and extraordinary losses.

***Since its inception in 1961, the Fund has always provided a RELIABLE AND AFFORDABLE source of compensation for insured losses. By the close of business in State Fiscal Year 2021-2022, claim payments had exceeded \$40 MILLION.***

It is the objective of DEP to fulfill its mandate to administer the Program by delivering prompt, efficient, economic and courteous service to the MSI customers. These services are primarily provided by the DEP staff who process applications, create policies, print payment notices, renew subscriptions, process claims, promote coverage and manage customer accounts. In addition to those efforts, contributions to the operations of the Program are also made by the producers who submit applications and are expected to promote coverage. Other commonwealth agencies also support the objectives of the Program. The Department of General Services processes and mails payment notices, the Comptroller's Office provides accounting services and other commonwealth agencies provide legal, technical, financial and administrative support. Contracted services also contribute to MSI's operations. Qualified actuarial firms provide the Board with financial analysis and reports that are used to evaluate premium rates, policy coverage and other financial aspects of coverage and operations. Engineering and technical services, as well as property inspection and valuation services, are also acquired from third parties, as needed, to assist with the processing of policy applications and the investigating of damage claims.

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<sup>1</sup> Throughout the remainder of this report, Pennsylvania State Fiscal Years (FY) are identified by the year in which they begin and run from July 1 through June 30.

## Coverage Availability

MSI coverage is available for virtually all structures at risk from damage caused by the collapse of underground coal or clay mine voids, even for most structures with preexisting damages. The only structures not eligible for coverage are those that have existing damage that exceeds the value of coverage, those that have existing damages that cause a structure to be unsafe for occupation or use, or those that are actively being damaged. The Fund also does not insure a structure if it is so badly damaged that the cost of repairs would exceed the coverage limit because the policy would have no value. However, if the Fund determines that extensive preexisting damages do not jeopardize the integrity of a structure and that the cost of repair would not exceed the value of the insurance coverage, then that structure is insurable if either the repairs required by the Fund are made prior to policy issuance or the cost of the repairs are estimated. If a claim is ever filed against that structure and the repairs have not been previously completed to the Fund's requirements, the estimated cost of the preexisting damages will be adjusted for inflation and those damages will be excluded from the claim settlement.

Structures that are in the process of being damaged are also potentially eligible for coverage once the subsidence event ends. They are then subject to the same eligibility requirements to which all other structures are subject, including the stabilization of the structure, if it is deemed necessary by the Fund.

## Premium Rate Reduction and Increase in Coverage

In August 2020, an independent actuarial study was completed by Taylor-Walker Consulting Actuaries on the Fund. Their conclusion, "...the Fund is in good financial health, but also has opportunities to sustain growth through improved practices. To this end, we recommend that PDEP consider some combinations of increasing policy limits and reducing premium rates". With this recommendation DEP requested from the Mine Subsidence Insurance Board (Board) at its January 14, 2021, meeting that premium rates be cut in half and that the coverage limit be increased from \$500,000 to \$1,000,000. The Board unanimously approved the recommendation to take effect July 1, 2021. Premium rates and coverage limits have not changed since 2021.



Figure 2. Example of a structure in Pennsylvania damaged by mine subsidence.

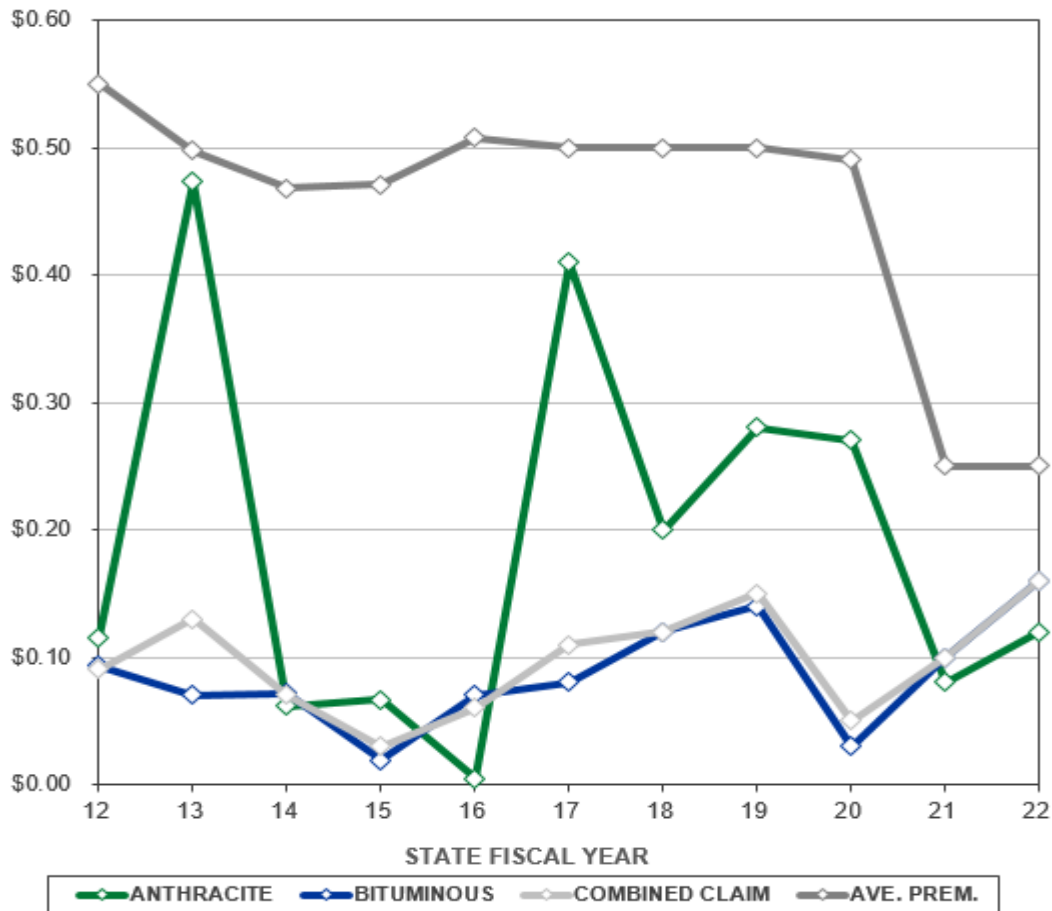
## Cost of Coverage and Claim Data Summaries

MSI coverage is affordable for almost all property owners. A comparison of premium rates to claim amounts is provided in Figure 3. The average premium per \$1,000 of coverage has remained stable between FY 2011 and FY 2020 while FY 2021 is reduced by half because of the premium reduction. Even with this reduction it is constantly higher than the average claim per \$1,000 of coverage, which ensures Fund solvency over the long term.

Coverage becomes less expensive as policy values increase because premium rates for the first \$5,000 in coverage are slightly higher than for coverage purchased beyond that amount. This practice evenly distributes the administrative costs of creating and renewing coverage to all policies at all subscription levels. The cost of coverage is expected to continue to decrease as policy amounts increase, which should occur as property values increase and repair costs escalate.

The number of claims filed historically has remained relatively consistent (Figure 4). Only a small fraction of the claims investigated are supported (Figure 5). During this report period,

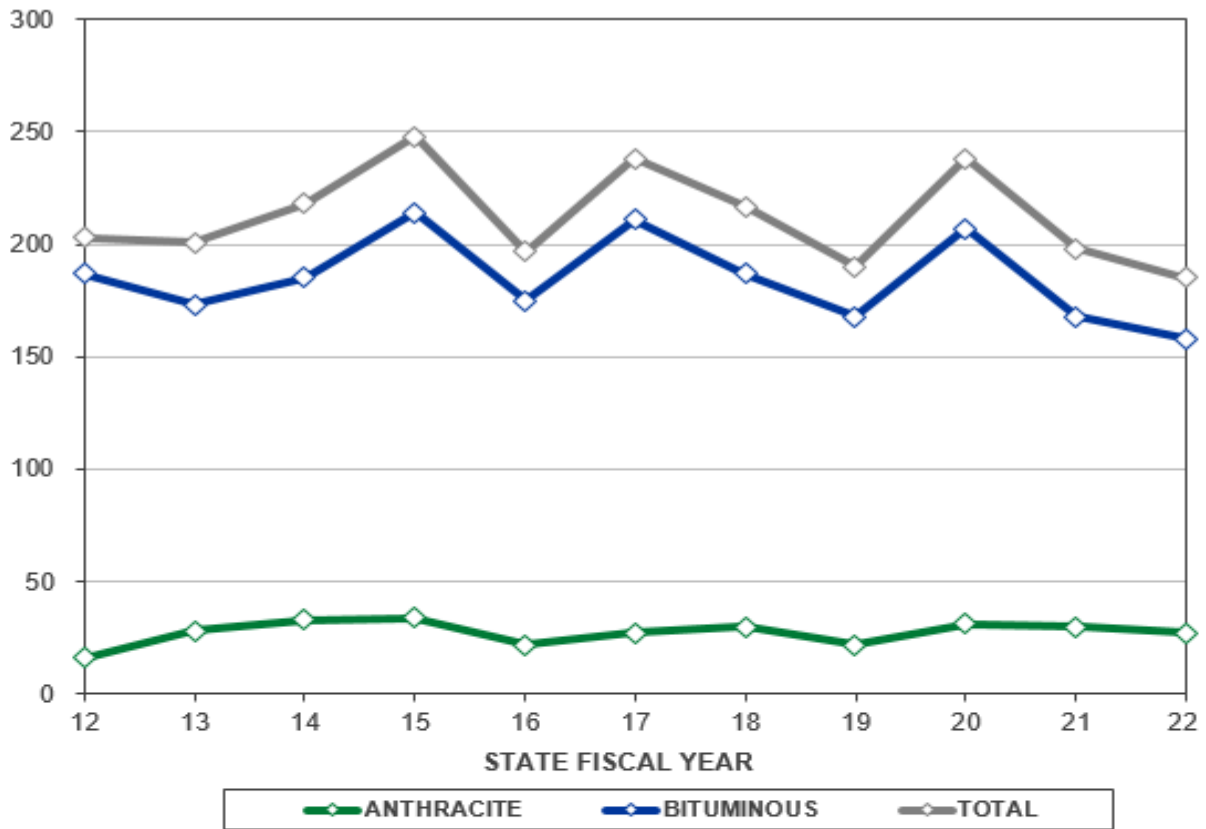
the dollar amounts associated with supported claims reduced from previous FYs. It is important to note that the decrease may not represent the final total amount for claims paid. There is some lag time between when a claim is filed and ultimately paid. Because of this, FY claims totals can increase from one report to the next if, for example, FY 2022 claims are paid in FY 2023. The overall trend is driven by bituminous claims (Figure 6).



STATE FISCAL YEAR	ANTHRACITE \$ CLAIMS PER \$1,000 COVERAGE	BITUMINOUS \$ CLAIMS PER \$1,000 COVERAGE	COMBINED \$ CLAIMS PER \$1,000 COVERAGE	AVERAGE PREMIUM PER \$1,000 COVERAGE
12	\$0.12	\$0.09	\$0.09	\$0.55
13	\$0.47	\$0.07	\$0.13	\$0.50
14	\$0.06	\$0.07	\$0.07	\$0.47
15	\$0.07	\$0.02	\$0.03	\$0.47
16	\$0.00	\$0.07	\$0.06	\$0.51
17	\$0.41	\$0.08	\$0.11	\$0.50
18	\$0.20	\$0.12	\$0.12	\$0.50
19	\$0.28	\$0.14	\$0.15	\$0.50
20	\$0.27	\$0.03	\$0.05	\$0.49
21	\$0.08	\$0.10	\$0.10	\$0.25
22	\$0.12	\$0.16	\$0.16	\$0.25

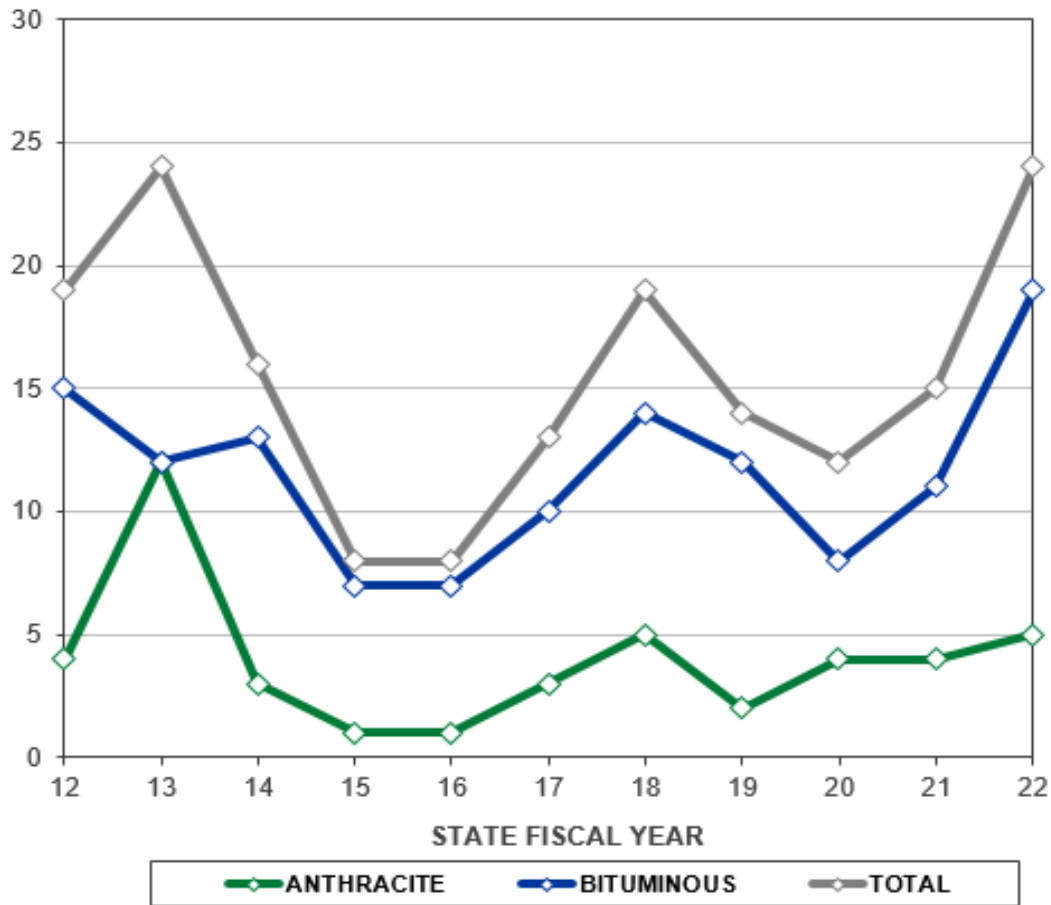
Figure 3. Comparison of premium rates to claims. FY 2022 highlighted in light blue.





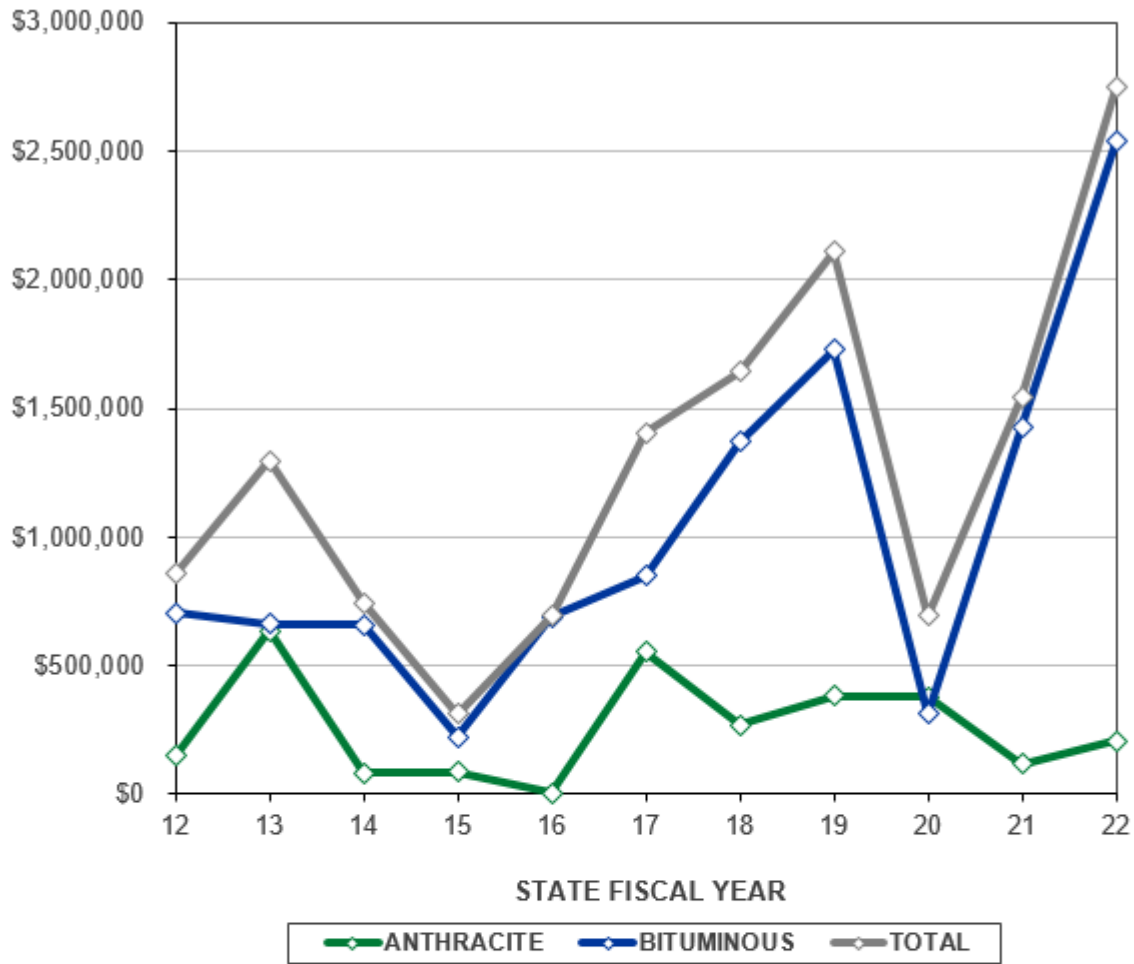
STATE FISCAL YEAR	ANTHRACITE # OF FILED CLAIMS	BITUMINOUS # OF FILED CLAIMS	TOTAL # OF FILED CLAIMS
12	16	187	203
13	28	173	201
14	33	185	218
15	34	214	248
16	22	175	197
17	27	211	238
18	30	187	217
19	22	168	190
20	31	207	238
21	30	168	198
22	27	158	185

Figure 4. Number of claims filed. FY 2022 highlighted in light blue.



STATE FISCAL YEAR	SUPPORTED ANTHRACITE CLAIMS	SUPPORTED BITUMINOUS CLAIMS	TOTAL SUPPORTED CLAIMS
12	4	15	19
13	12	12	24
14	3	13	16
15	1	7	8
16	1	7	8
17	3	10	13
18	5	14	19
19	2	12	14
20	4	8	12
21	4	11	15
22	5	19	24

Figure 5. Number of supported claims. FY 2022 highlighted in light blue.



STATE FISCAL YEAR	ANTHRACITE \$ PAID CLAIMS	BITUMINOUS \$ PAID CLAIMS	TOTAL \$ PAID CLAIMS
12	\$149,974	\$706,954	\$856,928
13	\$634,076	\$664,513	\$1,298,589
14	\$83,321	\$659,870	\$743,191
15	\$88,705	\$222,794	\$311,498
16	\$6,100	\$688,804	\$694,904
17	\$553,451	\$851,396	\$1,404,847
18	\$271,694	\$1,370,293	\$1,641,987
19	\$381,112	\$1,729,550	\$2,110,661
20	\$380,048	\$313,231	\$693,279
21	\$117,725	\$1,428,126	\$1,545,851
22	\$207,813	\$2,538,802	\$2,746,615

Figure 6. Claims paid in dollars. FY 2022 highlighted in light blue.

## Structures at Risk, Subscriptions and Market Perceptions

The Program estimates that there are more than one million structures in Pennsylvania that could be damaged by mine subsidence. Between the end of FY 2012 and 2022, the number of structures insured has risen from 56,628 to 61,201 (between 6.0% and 6.2% of the total structures at risk). Total policies in force have been decreasing since the peak of 63,508 at the end of FY 2018. These data suggest that the majority of losses caused by mine subsidence continue to be borne by individual property owners and not the Fund. Surveys conducted by the Program demonstrate that most property owners in the mining regions are knowledgeable of mine subsidence and of the availability of inexpensive MSI coverage. However, of those surveyed who owned property at risk and did not purchase coverage, most stated that they chose not to purchase coverage because they believed the risk of loss to be minimal. Historical data support that the probability of a subsidence event is low, but the cost to repair damages is often high.

*Historical data support that the probability of a subsidence event is low, but **THE COST TO REPAIR DAMAGES IS OFTEN HIGH.***

## Promoting MSI Coverage

To promote the availability of low cost mine subsidence insurance and to overcome the perception that coverage is unnecessary, information about the need for and availability of MSI coverage is provided to property owners on an ongoing basis and from many sources. Most of the marketing now conducted by DEP encourages property owners to purchase coverage directly from the Program, but DEP also continues with efforts that encourage insurance producers to promote MSI coverage to their customers.

MSI coverage has been promoted through mass and direct marketing campaigns, press releases, public service announcements, website enhancement and through notifications sent directly to property owners. In addition, DEP also leverages social media (Twitter, Facebook

and others) to raise awareness regarding MSI coverage availability. The MSI Program website, which is continually updated, also provides extensive information about underground mining, mine subsidence, the need for MSI coverage and, for added convenience, provides MSI's toll free number, 800.922.1678.

To consistently inform those acquiring real property in Pennsylvania of the potential of mine subsidence, a notice of the potential for subsidence is contained in deeds that convey real property interests. Other notices of mine subsidence and damage are required in real estate disclosure forms, which document the condition of a property at the time it is offered for sale. These notices help to ensure that property owners consider coverage at the time they first acquire their properties.

In addition to DEP's efforts to promote the program, some producers promote MSI coverage directly to their customers.

### **Insurance Producer Contributions to the Program**

Many of the roughly 2,500 contemporary insurance producers (agents and brokers) working in the mining regions of Pennsylvania have registered to sell MSI. In contrast to this, producers were not involved in MSI sales for more than 40 years. The slow development that finally led to producer involvement in MSI sales has resulted in circumstances where MSI sales programs do not comprise a significant portion of most company income. Previous surveys of producers have also suggested that they do not promote MSI coverage because they believe that the potential for loss is minimal. Another disincentive for producers is that with reduced premiums come reduced commissions. In spite of these disincentives, producers have played a consistent role in selling policies - anywhere between one-fifth to nearly one-half of the new policies created over the last 10 years were created by producers. That number, however, has declined over time but has remained constant over the last four FYs (Figure 7).

***PRODUCERS HAVE PLAYED A CONSISTENT ROLE IN SELLING POLICIES - HISTORY SHOWS THAT 20% TO 40% OF THE NEW POLICIES CREATED IN THE LAST DECADE WERE CREATED BY PRODUCERS.***

STATE FISCAL YEAR	POLICIES CREATED BY MSI PROGRAM	POLICIES CREATED BY INSURANCE PRODUCERS	TOTAL POLICIES CREATED	PERCENTAGE OF TOTAL POLICIES CREATED BY PRODUCERS
12	1,722	962	2,684	36%
13	3,052	1,667	4,719	35%
14	1,755	1,077	2,832	38%
15	2,179	1,042	3,221	32%
16	3,947	1,734	5,681	31%
17	3,567	1,728	5,295	33%
18	4,042	1,260	5,302	24%
19	3,195	922	4,117	22%
20	2,603	676	3,279	21%
21	2,767	728	3,495	21%
22	2,391	580	2,971	20%

**Figure 7.** Policy creation statistics and percentage of policies developed by insurance producers. FY 2022 highlighted in light blue.

### Statistical/Financial Summary

The statistical and financial information summarized in Figure 8 demonstrates the Fund's operational and financial performance over the last eleven FYs, with the specific period for this report (FY 2022) highlighted in light blue. During this time, the Fund has been financially sound. It has met all its loss obligations, paid all administrative costs and provided for all continually increasing reserve requirements.

During the last eleven years, the number of annual subscriptions has ranged between 56,628 and 63,508 while the underwritten value of coverage has steadily risen, from about

\$9.23 billion in FY 2012 to \$15.19 billion in FY 2022. Although the number of underwritten policies decreased since a high of 63,508 in FY 2018, the underwritten coverage continued to increase over that same period. The unreserved fund balance has remained stable at or near approximately \$1 million except for FY's 2012 and 2015.

STATE FISCAL YEAR	POLICIES IN FORCE	UNDER-WRITTEN COVERAGE (\$ BILLIONS) <sup>2</sup>	UNRESERVED FUND BALANCE
12	56,628	\$9.23	\$696,610
13	58,551	\$9.52	\$1,321,146
14	58,011	\$10.29	\$1,460,099
15	58,137	\$10.55	\$2,045,494
16	60,526	\$10.87	\$1,061,217
17	62,441	\$11.55	\$1,100,368
18	63,508	\$12.37	\$1,011,432
19	63,333	\$13.24	\$1,074,189
20	62,889	\$13.70	\$936,045
21	62,101	\$13.83	\$1,014,740
22	61,201	\$15.19	\$1,256,115

Figure 8. Fund's operational and financial performance over the last eleven FYs. FY 2022 highlighted in light blue.

*The unreserved fund balance between FY 2016 and FY 2022 has remained stable at approximately \$1 MILLION.*

### Commitment to Continual Improvement

The Board and DEP continually evaluate the performance of the Fund and the operations of the Program to assure that reliable, low-cost coverage is being delivered to subscribers. DEP surveys both property owners and insurance producers to assure that the services they need are being provided. Systems and services are then developed or modified to respond to those needs and to enhance the delivery of services. Actuarial studies by independent and expert third parties are conducted, as needed, so that the Board has the information it needs to

provide subscribers with the lowest possible premium rates and the highest limits of coverage that can be offered while still safeguarding the solvency of the Fund.

DEP will continue to directly inform property owners of mine subsidence, the damage it can cause, and the need for MSI coverage. Significant among those efforts are the notices that DEP mails directly to owners of structures that have been determined to be at risk from damage caused by mine subsidence. Direct mailings remain a cost-effective way to deliver the notices. Website enhancements and the use of social media will also remain tools utilized by the agency to conduct Program outreach.

## Conclusion

The Fund continues to meet its mandate to provide a reliable source of affordable coverage against losses caused by the collapse of abandoned underground coal and clay mines. At the end of FY 2022, there were 61,201 policies in force and the cost of coverage had fallen to an average premium of about 25 cents per \$1,000 of coverage.

The Fund is operationally and financially capable of insuring all structures at risk, and is continuing to develop systems that will more efficiently and economically support those capabilities. However, the vast majority of the more than one million structures that are estimated to be at risk in Pennsylvania remain uninsured. As a result, the costs to repair most mine subsidence losses are paid by uninsured individuals.

The Fund also continues to be financially sound. Only catastrophic mine subsidence losses of a magnitude that have never been experienced and are not anticipated in Pennsylvania could jeopardize the Fund's solvency. From a business perspective, it doesn't make sense for the Fund to provide financial assurance against such remote potential losses, as premiums would become unaffordable.

Combining the resources and abilities of the Program to manage claims and provide affordable coverage with the ability of producers to deliver MSI coverage to customers in niche markets creates the potential for significantly increasing MSI subscriptions and reducing the number of uninsured losses. DEP will continue to leverage various, modern and



fiscally responsible tools to educate the general public regarding mine subsidence risks and promote the MSI Program.

# APPENDIX – BACKGROUND INFORMATION AND ADDITIONAL RESOURCES

## MSI Fund

The Fund was created by an Act of Pennsylvania's legislature in 1961 (MSI Act or Act) to address the need for a reliable and affordable source of insurance against financial losses resulting from the movement of the earth's surface caused by the collapse of underground coal and clay mines. There are over 1 million structures in Pennsylvania that are located above abandoned coal and clay mines. The subsidence of those mines causes millions of dollars of property damage each year. In the late 1950s the private insurance industry excluded mine subsidence from standard property and casualty insurance coverage because the industry could not economically investigate claims and therefore could not provide affordable coverage.

Mine subsidence is highly unpredictable and the damage it causes can be very costly to repair. The absence of mine subsidence coverage exposed property owners and lenders to financial losses and negatively impacted the financial stability of individuals as well as the economic vitality of the coal regions. The Pennsylvania General Assembly created the Fund in 1961 to provide a reliable source of affordable coverage against losses caused by subsidence resulting from the collapse of underground coal and clay mines. It is a proprietary fund that can only be used to pay claims and the costs of administering the Program.

## MSI Board

The MSI Act also established the Board to oversee the administration of the Fund. The Board is comprised of the heads of three departments of state government or their designees. The Secretary of the Department of Environmental Protection chairs the Board and the Insurance Commissioner and Treasurer are members. The Board establishes provisions of the insurance policy, promulgates regulations, and establishes premium rates, which are to adequate to provide reserves sufficient to maintain the solvency of the Fund.

The expertise provided by the Board members and their staffs contributes greatly to the economic and efficient operations of the Fund and Program. The Insurance Department contributes actuarial and insurance policy expertise. The Treasury, the mandated custodian of the Fund, invests the Fund's reserves. DEP is mandated to administer the Program. It contributes mining expertise that allows for the economical investigation of damage claims and provides operational support, especially from its computer aided systems, which further provides for the economical administration of the Program.

### **MSI Program**

In addition to the Fund and Board, the MSI Act also created the Program within the state's Bureau of Mines and its successor organizations, now DEP. The mining expertise and other mining program resources, such as underground mining maps and GIS provided by DEP are used by the Program to economically and efficiently manage its operations. Using these resources, DEP is able to minimize the costs associated with investigating claims, processing applications, maintaining policy records and renewing coverage, which thereby allows the Fund to offer coverage at very affordable rates.

### **Mine Map Grant (MMG) Program**

DEP's MMG Program funds the processing of historical paper maps into electronic or digital records that can be easily stored, retrieved and used to conduct analyses. Those digital maps are valuable to MSI application processing operations because they provide the information needed for the applicants to determine if they need coverage. The MMG provides funds to learning institutions and incorporated nonprofit organizations to process, restore, scan, georeference and digitize mine maps. The electronic maps that result from this work contain features that are identified in coordinate systems. That information is then processed using GIS with other spatially related information to produce maps with both underground mine and surface features (roads, rivers, streams, railroads, etc.). That GIS application instantaneously identifies structures that need MSI coverage, a service which is vital to the modern method of providing coverage through the internet. Since the inception of the MMG in 2013, \$7.6 million has been awarded to institutes of higher learning and non-profits in this endeavor.

## Geographic Information Systems (GIS)

DEP has developed significant GIS infrastructure and capabilities. Because the agency regulates aspects of the environment that encompass air, land, water and minerals, DEP's GIS not only contains standard geographically referenced information, such as roads, streams, rivers, railroads and other surface information, but also information related to subsurface conditions, including mining data. Using DEP's GIS to correlate the location of a structure on the earth's surface with the subsurface location of mine voids is an extremely efficient and economical way to determine if a structure needs MSI coverage. Making the GIS available to the public as part of the MSI application instantaneously provides property owners with a visual representation of the information they need to determine if MSI coverage should be purchased.

## Programs in Other States

Pennsylvania was the first state to establish a mine subsidence insurance fund. Seven other states subsequently established such funds. Some states mandate coverage for all structures that are at risk and have achieved universal or near universal coverage for all structures at risk. While the Commonwealth of Pennsylvania allows property owners the option to choose the purchase of coverage some lenders mandate coverage.

## eResources

- MSI Program Webpage:  
<https://www.dep.gov/msi>
- MSI Program Risk Evaluation Tool:  
<https://gis.dep.pa.gov/msiRisk/>
- MSI Board:  
<https://www.dep.pa.gov/PublicParticipation/AdvisoryCommittees/Mining/CCMSIB/Pages/default.aspx>