

Information Circular 9362

Overview of Mine Subsidence Insurance Programs in the United States

By David K. Ingram

**UNITED STATES DEPARTMENT OF THE INTERIOR
Bruce Babbitt, Secretary**

BUREAU OF MINES

Library of Congress Cataloging in Publication Data:

Ingram, David K.

Overview of mine subsidence insurance programs in the United States / by David K. Ingram.

p. cm. — (Information circular; 9362)

Includes bibliographical references (p. 10).

1. Insurance. Mine subsidence—United States. I. United States. Bureau of Mines. II. Title. III. Series: Information circular (United States. Bureau of Mines); 9362.

TN295.U4 [HG9991.3] 622 s—dc20 [368.4] 93-23953 CIP

CONTENTS

	<i>Page</i>
Abstract	1
Introduction	2
Mine subsidence	3
Development of State subsidence insurance programs	3
State mine subsidence programs	3
Colorado	3
Illinois	4
Indiana	5
Kentucky	6
Ohio	6
Pennsylvania	7
West Virginia	8
Wyoming	9
Summary	10
References	10
Appendix.—Information on Federal and State agencies that are involved with mine subsidence insurance	12

ILLUSTRATIONS

1. Distribution of coal deposits in United States	2
2. Location of inactive coal mines in Colorado	4
3. Illinois counties eligible for mine subsidence insurance and location of underground mined areas	4
4. Indiana counties eligible for mine subsidence insurance	5
5. Kentucky counties eligible for mine subsidence insurance	6
6. Ohio counties eligible for mine subsidence insurance	7
7. Distribution of coal deposits in Pennsylvania	7
8. Distribution of coal deposits and mined-out areas in West Virginia	8
9. Wyoming counties that have majority of underground mines	9

TABLE

1. Summary of mine subsidence insurance programs	11
--	----

OVERVIEW OF MINE SUBSIDENCE INSURANCE PROGRAMS IN THE UNITED STATES

By David K. Ingram¹

ABSTRACT

Research performed by the U.S. insurance industry has determined that mine subsidence is uninsurable. Consequently, the insurance industry has decided not to voluntarily offer mine subsidence insurance. The U.S. Department of the Interior has long been investigating the effects of mine subsidence. These investigations have resulted in Federal regulations and controls of mine subsidence.

This U.S. Bureau of Mines report generally describes mine subsidence, the development of mine subsidence insurance programs, and the eight current mine subsidence insurance programs in the United States. The States that have these subsidence programs include Colorado, Illinois, Indiana, Kentucky, Ohio, Pennsylvania, West Virginia, and Wyoming. Major aspects of the programs include history, administrative and operational procedures, insurable structures, recognition of mine subsidence, major exclusions, claims, insurance premiums, and the economic health of each program. Addresses of agencies involved with mine subsidence insurance are also given.

Information within this report can be useful for residential and commercial property owners and mine operators. States that are considering starting or have an existing mine subsidence insurance program can also use this report as a model for initiating or modifying their programs.

¹Geologist, Pittsburgh Research Center, U.S. Bureau of Mines, Pittsburgh, PA.

INTRODUCTION

The U.S. Geological Survey has identified 1.7 trillion tons of coal resources in the United States (fig. 1) (1).² As many as 30 States have coal mining operations extracting coal from these reserves (2). A 1975 U.S. Bureau of Mines study (3) estimated that 7 million acres of land has been undermined in the United States. There still remains about 5.2 million acres of undermined surface area that has not yet subsided. Approximately 500,000 acres is situated under urban, populated areas. The National Research Council Committee on Ground Failure Hazards estimated that from 1925 to 1975 landslides and subsidence caused at least \$75 billion in losses. Costs of subsidence damage are three times higher than the estimated costs of damage caused by floods, hurricanes, tornadoes, and earthquakes (4).

²Italic numbers in parentheses refer to items in the list of references preceding the appendix at the end of this report.

The insurance industry in the United States has investigated the feasibility of offering insurance for damage resulting from subsidence. The Mine Subsidence Task Force of the National Committee on Property Insurance conducted a study in 1986. Their conclusion was "before the insurance industry is called upon to underwrite the devastation that results from mine and other land subsidence, more research is needed in the hazard's prediction, cost, and insurability" (5).

The USBM has been, and currently is, investigating subsidence events. Research is directed toward preventing or minimizing the effects of subsidence (3). The earlier investigations helped instigate the enactment of a Federal law to protect society and the environment from the adverse effects of coal mine operations. These investigations influenced legislation to create grant monies for States to initiate their own mine subsidence programs.

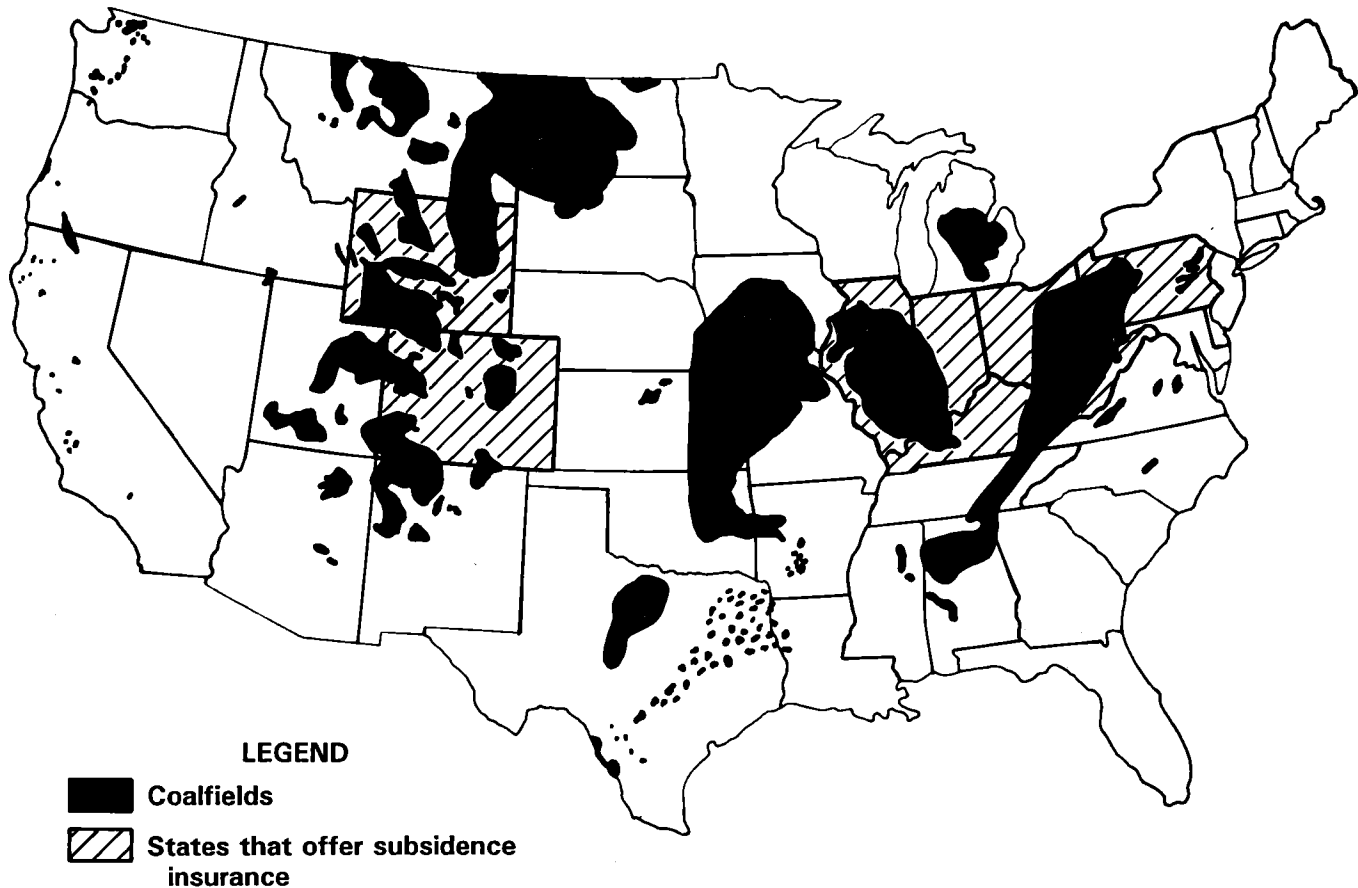


Figure 1.—Distribution of coal deposits in United States.

MINE SUBSIDENCE

Subsidence, or lowering of the surface caused by underground mining, occurs because the overlying rock strata collapse downward into the void created by mining. Strata collapse begins immediately above the void area and eventually propagates upward toward the surface during a subsidence event. Strata displacement is largest near the void and gradually decreases toward the surface. Recognition of surface subsidence and resultant structural damage can be difficult. Depending upon the type of subsidence, the ground surface will deform in different ways. Some of the typical damage that occurs to structures includes

- Cracks in foundation or basement walls and floors,
- Separation of stoop, steps, and patio from the main house,

- Tilting of sections of the house,
- Sticking or jamming of doors and windows, and
- Leaking of roof.

Structural damage due to normal ground movement or poor construction is often mistaken for subsidence damage. Seasonal changes in the soils, such as changes in moisture content or freeze-thaw cycles, can cause similar damage to structures. Poor construction methods such as low-quality concrete mix and/or poor structural support may not prevent the damaging effects of normal soil swelling that surrounds structure foundations (6). Final determination of whether or not structural damage is actually caused by mine subsidence should be made by experienced professionals.

DEVELOPMENT OF STATE SUBSIDENCE INSURANCE PROGRAMS

Until 1977, it was the State's responsibility to regulate and control subsidence-related problems on non-Federal lands. On August 3, 1977, Public Law 95-87, the Surface Mining Control and Reclamation Act (SMCRA), was enacted. Provisions within this act help regulate the effects of underground coal mining operations on the surface.

Under SMCRA, coal companies are required to design and implement methods to prevent or to control and minimize the effects of subsidence. In addition, underground coal companies are required to pay a 15-cent fee for every ton of coal produced. This fee, along with surface mining operation fees (35 cents per ton), is deposited into the Abandoned Mined Land Reclamation Fund.

Money from the Abandoned Mined Land Reclamation Fund helps cover the reclamation costs of underground and surface strip mines abandoned before 1977. Stabilizing or reclaiming the surface or ground that is subsiding, because of a mine abandoned before 1977, is considered a reclamation cost. Stabilizing or repairing surface structures that are damaged by subsidence is not considered a reclamation cost.

Reclamation costs for uncontrolled subsidence caused by mines abandoned after 1977 are the responsibility of

the operating coal company. However, liability for costs of subsidence damage to surface structures caused by mining after 1977 depends upon individual State regulations.

In 1984, Congress enacted changes to SMCRA. One of the changes was to authorize grants up to \$3 million from the Abandoned Mined Land Reclamation Fund for the establishment of State-operated mine subsidence insurance programs (5). In order to be eligible for the grant, States must contribute to the fund and have SMCRA-approved abandoned mined land reclamation programs (7). States that receive the grant have up to 8 years for their programs to become self-sustaining (8).

There are 21 States eligible for Federal subsidence assistance. Currently, eight States have mine subsidence insurance programs: Colorado, Illinois, Indiana, Kentucky, Ohio, Pennsylvania, West Virginia, and Wyoming (fig. 1). Six of the eight States utilized the Federal grant money to initiate their programs. The other two States initiated their programs with State appropriations. To date, only New Mexico is considering organizing a mine subsidence insurance program.

STATE MINE SUBSIDENCE PROGRAMS

COLORADO

Coal mining in Colorado began in the 1860's. The Plan of Operation of the Colorado Mine Subsidence Protection

Program reports that there are nearly 50,000 acres of undermined land. This 50,000 acres, in the Front Range corridor, affects more than 7,450 structures and approximately 25,000 people (fig. 2).

The Colorado Mine Subsidence Protection Program was established in 1986. Funds to initiate the Trust Fund that finances the program were obtained from the Federal Government.

Johnson & Higgins insurance brokerage has been designated as the plan administrator of the Mine Subsidence Protection Program. Both the Mine Subsidence Protection Program and the Trust Fund are managed by the Mine Land Reclamation Division, Colorado Department of Natural Resources.

Subsidence insurance policies are only issued to owners of residential structures. Eligible structures had to exist or at least be covered by a building permit issued before February 22, 1989. The Mine Subsidence Protection Program only insures damage caused by underground coal mine subsidence. Participation in the program is voluntary.

Major exclusions of Colorado's program include all pre-existing damage to or conditions of the structure and contents of the structure. In fact, these exclusions apply to all eight current mine subsidence insurance programs. Unlike the other programs, Colorado's program also excludes payment for subsidence damage caused by any coal mine that was active, abandoned, or inadequately reclaimed after August 3, 1977.

The cost to participate in Colorado's program is \$160 for the first year and \$35 per year thereafter. The first year's fee covers a \$125 inspection fee on the insured property. The maximum coverage is \$50,000 per occurrence after a \$1,000 deductible.

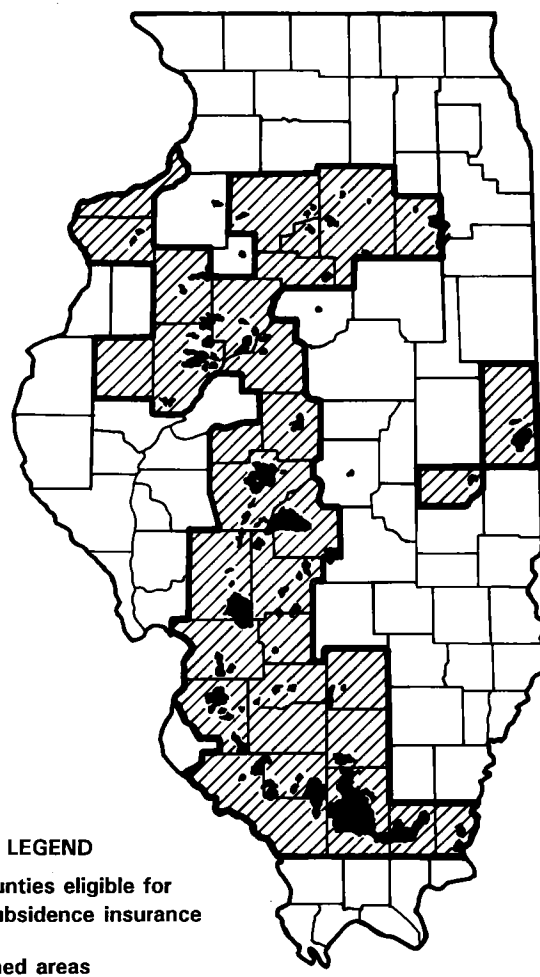
Colorado's subsidence insurance program began in 1986, but because of planning and organizing, the first policy was not written until August 1988. As of late 1992,

there were 1,100 policyholders (9). There have been six subsidence claims filed since the program began. Of the six claims filed, five have been invalid claims, while the one remaining claim is pending. As of December 1992, the total balance of the program's Trust Fund is approximately \$3 million. Revenue for this program is generated by interest investments of the Trust Fund.

ILLINOIS

Underground mining began in Illinois in 1842. Today, there are about 750,000 acres of surface land undermined in the State (10). The Illinois Mine Subsidence Insurance Fund recognizes 34 counties as mine-subsidence-prone areas with approximately 1 pct (percent) or more of the land surface undermined (fig. 3).

ILLINOIS



LEGEND



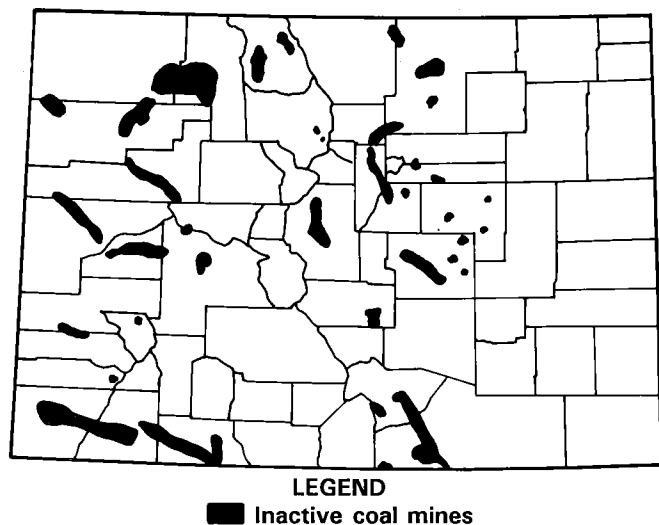
-  Counties eligible for subsidence insurance
-  Mined areas

Figure 3.—Illinois counties eligible for mine subsidence insurance (having approximately 1 pct or more of their land surface undermined) and location of underground mined areas.

COLORADO



LEGEND


-  Inactive coal mines

Figure 2.—Location of inactive coal mines in Colorado.

In September 1979, Illinois mandated all private insurance companies to offer mine subsidence insurance. Along with the mandate, Illinois legislated the establishment of the Illinois Mine Subsidence Insurance Fund. This fund is the reinsurer for the insurance companies. The Illinois Mine Subsidence Insurance Fund was initiated with a State loan. Shortly after the fund was initiated, the loan was paid back to the State and the fund became self-sustaining.

The Illinois Mine Subsidence Insurance Fund is not managed by the State. It is the only tax-paying, industry-operated subsidence program (11). The fund is guided by a Governing Committee. The Governing Committee is composed of five members from the insurance industry and four members who are not associated with either the insurance industry or the fund. In general, the insurance companies add the subsidence endorsements to their policies. The Governing Committee supervises the fund and governs all other aspects of the program.

Mine subsidence insurance coverage can be obtained for residential or commercial structures. The fund recognizes mine subsidence as the collapse of manmade underground mines. The manmade underground mines include, but are not limited to, coal mines, clay mines, limestone mines, and fluorspar mines.

Subsidence insurance is automatically included into every property insurance policy issued or renewed. If the owner of a structure does not want the coverage, he or she must sign a waiver.

Mine subsidence coverage must be purchased in amounts no less than the amount insured by conventional property insurance, up to a maximum of \$350,000 per structure. Premium rates for both residential and commercial insurance range from \$8 for \$10,000 or less worth of coverage to \$53 for \$350,000 worth of coverage. The deductible for any paid claim is 2 pct of the insurance coverage up to a maximum of \$500.

The Illinois Mine Subsidence Insurance Fund has been in existence for 13 years. It is the second oldest subsidence insurance program in the United States. As of late 1992, there were over 350,000 structures insured. About 5,000 claims have been filed since the program began. Approximately 750 of those claims, or 15 pct, have been valid subsidence claims (11). The remaining 4,250 claims are either pending or are not subsidence related. As of late 1992, the fund's surplus totaled approximately \$1.1 million (11). Most of the revenue is generated by insurance premiums.

INDIANA

Underground coal mining has been occurring in Indiana since 1850. There are approximately 150 square miles, or

100,000 acres, of surface land undermined in the State. The Mine Subsidence Program of Indiana offers subsidence insurance in 26 counties (12) (fig. 4).

Indiana's subsidence program was established under the Indiana Insurance Code in late 1986. This legislation requires insurance companies licensed in Indiana to offer mine subsidence insurance. The legislation also established the Indiana Mine Subsidence Insurance Fund, the reinsurer for the insurance companies. The fund was initiated by a Federal grant and is expected to be self-supporting by 1994 (13).

The Indiana Mine Subsidence Insurance Fund is administered by the Commissioner of Insurance, Indiana's Department of Insurance. In general, the insurance companies write and issue the subsidence policies and pay claims to the property owners. The Commissioner is responsible for administering and supervising the fund.

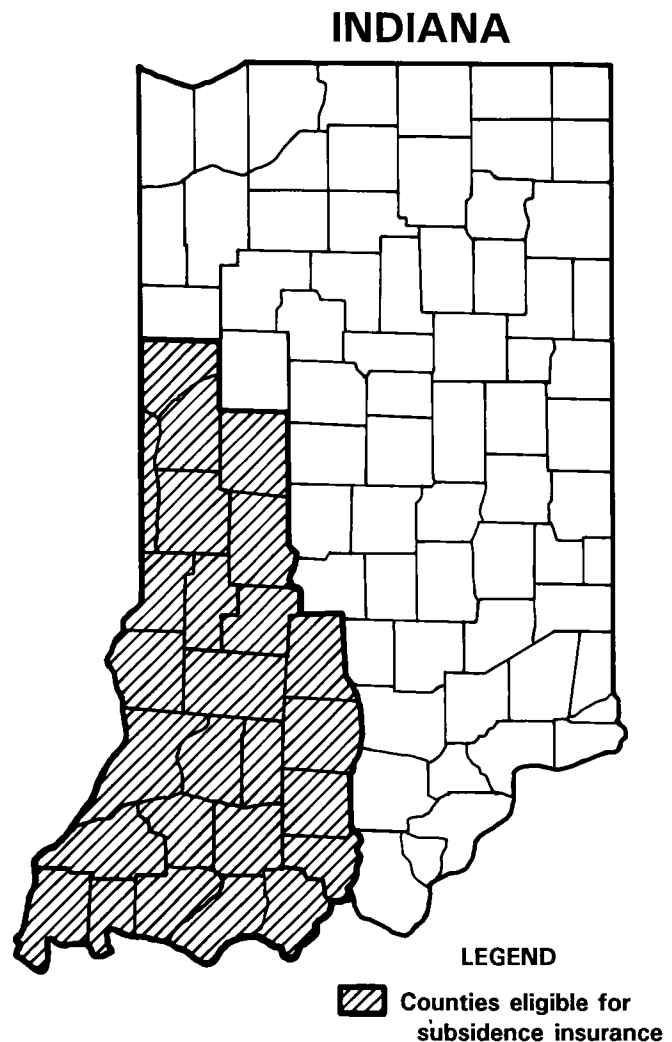


Figure 4.—Indiana counties eligible for mine subsidence insurance.

Mine subsidence insurance can be obtained for residential or commercial structures. The fund defines mine subsidence as the collapse of only underground abandoned coal mines. One of the exclusions of Indiana's program that differs from some of the other State programs is that the program does not pay for damage caused by mines abandoned after August 3, 1977.

All structures within the 26 counties recognized by the fund are automatically covered by subsidence insurance when they are insured by a standard property insurance policy. An owner may obtain a waiver from coverage.

Subsidence coverage must be purchased in amounts no less than the amount insured by conventional property insurance. However, the maximum coverage is \$75,000 per structure.

Annual insurance premiums for residential structures range from \$15 for \$15,000 or less worth of coverage to \$27 for \$75,000 worth of coverage. Annual insurance premiums for commercial structures range from \$24 for \$15,000 or less worth of coverage to \$48 for \$75,000 worth of coverage. The deductible for a paid subsidence claim is 2 pct of the insurance coverage; the deductible cannot be less than \$250 or more than \$500.

The fund has been in existence for 6 years; it currently has about 60,000 policyholders. To date, there have been about 67 claims filed since the program began. Of those 67 claims, 13 (19 pct) claims have been valid, 40 claims have been invalid, while the remaining 14 are pending. The total fund's surplus as of late 1992 is approximately \$2 million. Revenue for the fund is generated by insurance premiums and dividends on investments (13).

KENTUCKY

Coal mining was occurring in Kentucky as early as 1790. Kentucky has two coalfields, one in the eastern part of the State and one in the western part of the State. In western Kentucky, coal reserves underlie about 6,400 square miles in 19 counties. In eastern Kentucky, coal reserves underlie about 11,000 square miles in 33 counties. Past studies have indicated there are approximately 37,000 acres of surface land overlying abandoned coal mines (14).

In 1984, Kentucky enacted into law Senate Bill 84 establishing the Kentucky Mine Subsidence Insurance Fund. This bill mandated insurance companies licensed with the State of Kentucky to offer mine subsidence insurance. The Kentucky Mine Subsidence Insurance Fund became operable November 1, 1986. The Kentucky fund was initiated with a Federal grant and became self-sustaining in September 1990.

The Kentucky Mine Subsidence Insurance Fund is administered by the Division of State Risk and Insurance Services of Kentucky's Department of Insurance. In

general, the insurance companies write and issue the subsidence policies to the property owners. The fund is maintained and supervised by an administrator.

Mine subsidence insurance can be obtained for residential or commercial structures. Mine subsidence is recognized by the fund as the collapse of underground coal mines.

Mine subsidence insurance can be obtained in 34 counties in Kentucky (fig. 5). All structures are automatically covered by subsidence insurance when they are insured by a standard property insurance policy. As in other States, owners may waive their subsidence insurance.

Subsidence coverage must be purchased in amounts no less than the amount insured by conventional property insurance, provided the maximum coverage does not exceed \$50,000.

Insurance premiums for residential structures range from \$15 for \$15,000 or less worth of coverage to \$22 for \$50,000 worth of coverage. Insurance premiums for commercial structures range from \$24 for \$15,000 or less worth of coverage to \$38 for \$50,000 worth of coverage. Similar to other State programs, the deductible for a paid claim is 2 pct of insurance coverage; this amount cannot be less than \$250 or more than \$500.

Kentucky's subsidence fund has been in existence for 6 years. It currently has about 37,000 policyholders. There have been approximately 305 subsidence claims filed since the program's conception. Of the 305 claims filed, 29, or 10 pct, are related to mine subsidence, 260 were invalid, and 16 are still pending. The total fund surplus as of December 1992 was approximately \$5.2 million. Revenue for the fund is generated by insurance premiums and dividends on investments (15).

OHIO

Coal mining has been occurring in Ohio since the late 1700's. The U.S. Department of Energy estimated that

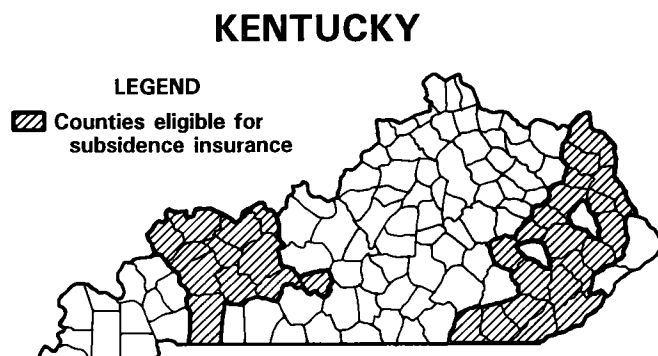


Figure 5.—Kentucky counties eligible for mine subsidence insurance.

about 10,000 square miles, or 24 pct, of the State overlies coal deposits (16). Currently, there are approximately 3,800 abandoned underground coal and mineral mines (17).

In January 1985, State legislators established the Ohio Mine Subsidence Insurance Underwriting Association, the Mine Subsidence Insurance Governing Board, and the Mine Subsidence Insurance Fund. Insurance coverage became available to the public October 21, 1987. Ohio's subsidence program was initiated with State and Federal appropriations.

The Ohio Mine Subsidence Insurance Underwriting Association requires insurance companies licensed in Ohio to offer mine subsidence coverage. The Mine Subsidence Insurance Governing Board administers the Mine Subsidence Insurance Fund. The Treasurer of State is the custodian of the fund. The Governing Board consists of the Director of Natural Resources as chairperson, the Treasurer of State, and one representative from an Ohio-domiciled member company. The Governing Board oversees the subsidence program.

In general, insurance companies are responsible for issuing the subsidence policies and collecting subsidence premiums. The administrative and claim services of the program are contracted to the Ohio Fair Access to Insurance Requirements (FAIR) Plan Underwriting Association by the Mine Subsidence Insurance Governing Board.

Subsidence insurance can be obtained for residential structures only. Mine subsidence is recognized as the collapse or caving in of mines, including, but not limited to, coal, clay, limestone, and salt mines.

Mine subsidence insurance is mandatory in 27 counties and voluntary in 10 other counties (18) (fig. 6). Subsidence coverage must be purchased in amounts no less than the amount insured by the conventional property insurance up to a maximum of \$50,000. The annual premium rate for the insurance is \$3 for the mandatory insurance and \$12 for the voluntary insurance, regardless of the amount of the coverage. For any subsidence claim, there is a 2-pct deductible, with a minimum of \$250 and a maximum of \$500.

Mine subsidence insurance has been available in Ohio for about 5 years. There were about 13,000 policyholders as of late 1992. There have been 136 claims submitted since the program began. To date, 16, or 12 pct, of the claims were valid, 115 were invalid, and the remaining 5 are still pending. Currently, there is no surplus of funds available for Ohio's subsidence program. This is due to a 1992 restructuring of the subsidence program. This restructuring was undertaken to improve the liability of the subsidence program for the long term. Projections indicate that the subsidence fund will have a surplus in 1993 and thereafter (18).

PENNSYLVANIA

Coal mining in Pennsylvania was first recorded back in 1759. Approximately 15,000 square miles, or 33 pct, of Pennsylvania overlies coal deposits (16) (fig. 7). As of 1985, it was estimated that more than 5 million Pennsylvanians live over abandoned mine sites (2).

On August 23, 1961, Pennsylvania enacted a law that created a State-operated mine subsidence insurance program. This act established the Coal and Clay Mine Subsidence Insurance Board and the Coal and Clay Mine Subsidence Insurance Fund. The fund for the program was

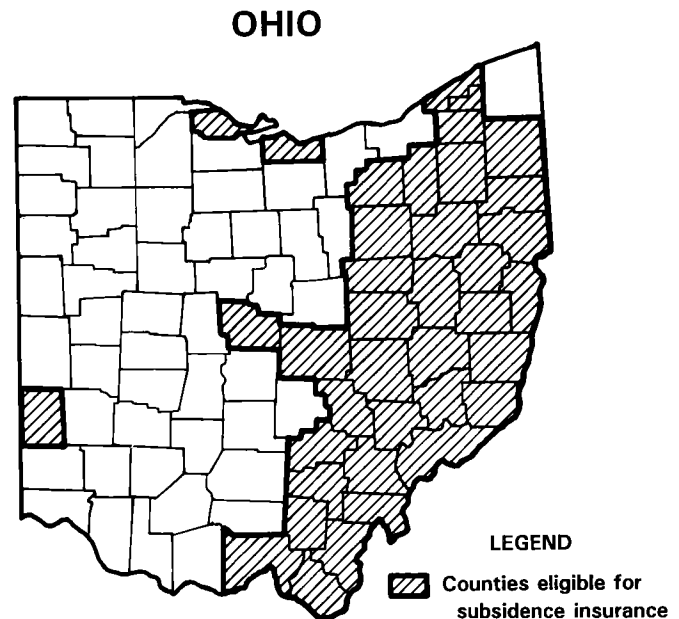


Figure 6.—Ohio counties eligible for mine subsidence insurance.

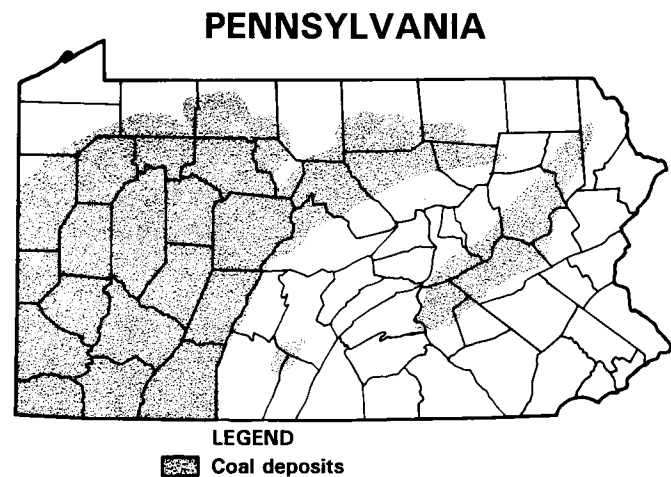


Figure 7.—Distribution of coal deposits in Pennsylvania.

initiated by State appropriations and became self-sustaining as of 1983.

Subsidence insurance is issued by Pennsylvania's Mine Subsidence Insurance Fund under the Bureau of Mines and Reclamation, Department of Environmental Resources. The Coal and Clay Mine Subsidence Insurance Board implements the rules and regulations of the insurance program. The Board consists of three members: the Secretary of Environmental Resources (chairperson), the Commissioner of Insurance, and the State Treasurer. The State Treasurer is also the custodian of the Coal and Clay Mine Subsidence Insurance Fund.

Subsidence insurance can be obtained in 28 counties throughout the coal or clay mining regions. Insurance is voluntary and can be obtained for both residential and commercial structures. The subsidence insurance covers subsidence due to coal or clay mining operations. It should also be noted that on April 27, 1966, Pennsylvania passed a law requiring active mines to prevent any subsidence damage to surface structures in existence before 1966 (19).

The maximum coverage available in Pennsylvania is \$100,000. Costs for 1 year of insurance for residential structures range from \$12.50 for \$5,000 worth of coverage to \$88.50 for the maximum coverage of \$100,000. For commercial structures, costs range from \$63 for \$5,000 worth of coverage to \$348 for \$100,000 worth of coverage. Currently, maximum coverages are moving toward \$150,000 for residential structures and \$250,000 for commercial structures pending publication of the regulation.

For losses covered by the insurance, the fund will pay the smaller of the following amounts: the amount of insurance shown on the certificate or the cost of repairs. In either case, there is a \$250 deductible for residential structures and a \$500 deductible for commercial structures.

Pennsylvania was the first State to issue mine subsidence insurance; the insurance fund has been in existence for 32 years. There were approximately 40,000 policyholders as of late 1992. In the bituminous region for the past 10 years, annual claims actually related to subsidence as a percentage of total claims submitted were about 30 pct. In the anthracite region, this percentage was about 5 pct (19-20). These percentages have been highly variable because the number of subsidence events varies from year to year. Currently, the fund has about \$11.5 million in surplus. Revenue for the fund is generated from insurance premiums and investments (20).

WEST VIRGINIA

Mining was occurring in West Virginia before it became a State in 1863. West Virginia has the largest coal

deposits in the northern Appalachian Coalfield. A total of 40 out of 55 counties in West Virginia have coal reserves that are economically important. In fact, 69 pct, or 16,800 square miles, of surface land overlies coal deposits (fig. 8) (16).

In 1982, West Virginia passed legislation that created the Mine Subsidence Insurance Fund. This legislation also directed insurance companies licensed in West Virginia to offer mine subsidence insurance. The fund was established with State-appropriated money, and it became self-sustaining shortly thereafter.

The Mine Subsidence Insurance Fund is operated by West Virginia's Board of Risk and Insurance Management. The Board is empowered by legislation to invest and manage the fund. In general, the insurance company issues the subsidence policies, collects the premiums, and pays only Board-approved subsidence losses, which are then reimbursed by the fund.

Mine subsidence insurance can be obtained for residential and commercial structures located in any of 40 counties in West Virginia. Mine subsidence is defined as the collapse of manmade underground coal mines.

Mine subsidence insurance is automatically attached to regular property insurance. However, a waiver of subsidence insurance can be obtained.

The amount of subsidence insurance coverage on a structure must be no less than the amount of the regular

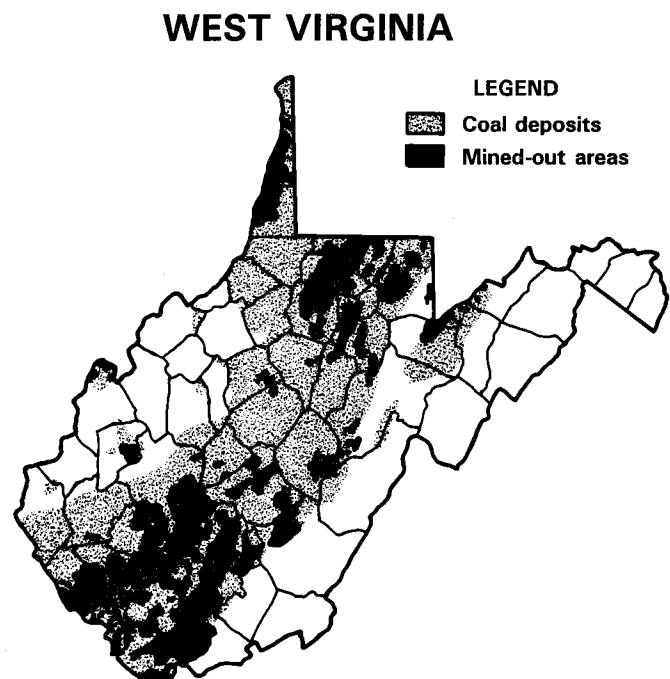


Figure 8.—Distribution of coal deposits and mined-out areas in West Virginia.

property insurance coverage up to a maximum of \$75,000. The cost of subsidence insurance for residential structures ranges from \$10 for \$10,000 or less worth of coverage to \$23 for \$75,000 worth of coverage. For commercial structures, the cost ranges from \$20 for \$10,000 or less worth of coverage to \$46 for \$75,000 worth of coverage.

There is a \$250 deductible on all paid subsidence claims. The limit of liability of the fund for losses caused by mine subsidence shall not exceed the smallest of the amount of the subsidence policy, the replacement cost of the structure, the cost for repairing the damage, the amount of fire insurance coverage, or the amount available in the fund.

West Virginia's Mine Subsidence Insurance program has been in existence for 10 years. There were 110,000 policyholders as of December 1992. Since 1983, 1,050 subsidence claims have been filed. Approximately 168, or 16 pct, of the 1,050 claims have been valid, about 602 have been invalid, and approximately 280 are still pending. Currently, the fund has approximately \$10 million in surplus. Revenues for the fund are generated by premiums and dividends on investments (21).

WYOMING

Coal mining in Wyoming started in the 1860's. There are about 15,000 people on approximately 1,000 acres overlying abandoned mines (fig. 9). Wyoming's Abandoned Mined Land Program is working to reduce the potential for subsidence in these towns by backfilling and/or grouting the mine voids.

In 1986, Wyoming created the Wyoming Mine Subsidence Insurance Program. Wyoming's program was started with seed money from the Federal Government and is projected to be self-sustaining by 1993 (22).

The Wyoming Mine Subsidence Insurance Program operates under the Abandoned Mined Land Program of the Land Quality Division, Department of Environmental Quality (23). The program is controlled by the State, but most of the services are contracted out. The State is responsible for regulating the program and ensuring that the program stays solvent.

Subsidence insurance coverage can be purchased for residential and commercial structures. The program recognizes mine subsidence as collapse of manmade underground coal mines.

In addition to the previously mentioned exclusions that are common to all the subsidence programs, Wyoming has an exclusion that prohibits coverage of structures built on known subsidence-prone areas after the program became effective.

The program is voluntary. Insurance coverage cannot be purchased for less than 75 pct of the structure's estimated value nor for more than the structure's estimated

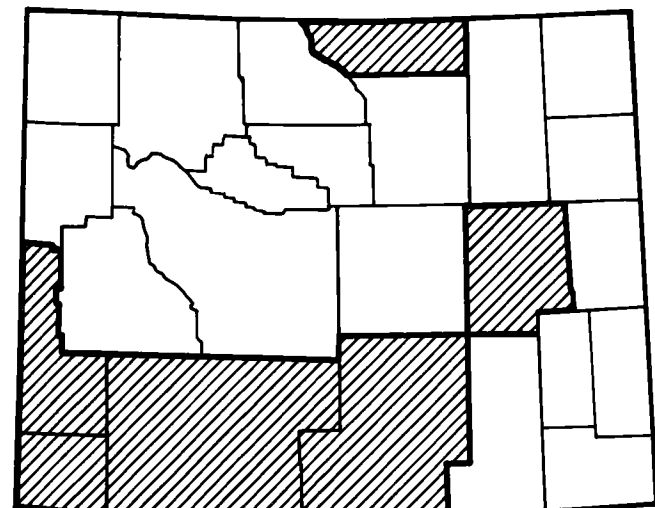
value up to a maximum of \$150,000. The annual premium rates for structures are \$2 per \$1,000 for residential coverage and \$3 per \$1,000 for commercial coverage.

Subsidence claims on residential structures are paid out minus 1 pct of the amount of insurance purchased with a minimum deductible of \$250 and a maximum of \$500. Deductibles for commercial structures are also 1 pct of the amount of the insurance purchased with a minimum of \$250, but the maximum is \$1,000.

For losses covered by the insurance, the program either pays for the cost to repair the structure to its condition prior to subsidence damage or the amount of insurance on the structure, whichever is less. Wyoming's program also pays for additional living expenses when a residential structure is damaged to the point of being uninhabitable.

The Wyoming Mine Subsidence Insurance Program has been in operation for 6 years. There were about 1,000 policyholders as of December 1992. There have been 82 claims since the program's conception. About 53 claims, or 65 pct, have been valid subsidence claims, 24 claims have been invalid, while 5 claims are pending. Currently, the fund totals about \$1.7 million and is divided into two accounts. One account generates revenue from collected premiums and dividends from a savings account. The other account is currency that originated from the Federal grant (22).

WYOMING



LEGEND

 Counties eligible for subsidence insurance

Figure 9.—Wyoming counties that have majority of underground mines.

SUMMARY

The objective of this report is to compile and summarize all the mine subsidence insurance programs in the United States. It is important to note that the USBM's intention is not to evaluate or rank each subsidence program by comparison, but rather to summarize in one report all the programs in existence for a source of reference. Information in this report should be used as a platform for States considering starting a subsidence program or for States that want proven ideas to modify

their existing programs. In addition, coal companies should find this information useful in dealings with the local communities. Property owners can use this report as an initial reference to answer questions and or further pursue insurance coverage. Table 1 summarizes the major aspects of all eight subsidence insurance programs. For convenience, the appendix at the end of this report contains the addresses and telephone numbers of the agencies affiliated with each program.

REFERENCES

1. National Coal Association (Washington, DC). A Forecast for U.S. Coal in the 1980's. Natl. Coal Assoc., Jan. 1981, p. 2-5.
2. Journal of American Insurance. That Sinking Feeling Costs Money. V. 61, 2d Q., 1985, 24 pp.
3. Johnson, W., and G. C. Miller. Abandoned Coal-Mined Lands. Nature, Extent, and Cost of Reclamation. BuMines SP 6-79, 1979, 29 pp.
4. Insurance Review. Fears Over Subsidence. Oct. 1986, p. 5.
5. National Underwriter: Property and Casualty/Employee Benefits. Land Subsidence Leaves Cos. on Shaky Ground. Sept. 5, 1986, pp. 20-21.
6. Turney, J. E. Subsidence Above Inactive Coal Mines. Spec. Publ. 26, Dep. of Nat. Resour., CO Geol. Surv. and CO Mined Land Reclam. Div., Inactive Mine Reclam. Prog., 1985, 32 pp.
7. Netzner, N. L. Wyoming Mine Subsidence Insurance Program. Sec. 9 in Governor's Workshop On Mine Subsidence, (Laramie, WY, Oct. 31, 1986). Univ. WY, Laramie, WY, 1986, 10 pp.
8. Godesky, D. (Office of Surface Mining Reclamation and Enforcement, Dep. Interior). Private communication, 1990; available upon request from D. K. Ingram, BuMines, Pittsburgh, PA.
9. Gwinn, C. (Johnson & Higgins). Private communication, 1992; available upon request from D. K. Ingram, BuMines, Pittsburgh, PA.
10. DuMontelle, P. B., S. C. Bradford, R. A. Bauer, and M. M. Killey. Mine Subsidence in Illinois: Facts for the Homeowner Considering Insurance. ISGS, Geol. Notes 99, Aug. 1981, 34 pp.
11. Murphy, E. W. (Illinois Mine Insurance Fund). Private communication, 1992; available upon request from D. K. Ingram, BuMines, Pittsburgh, PA.
12. Indiana Department of Insurance. Indiana Mine Subsidence Insurance Fund Facts. Consum. Inf. Publ. Pam., 1988, 9 pp.
13. Foy, B. (Indiana Department of Insurance). Private communication, 1992; available upon request from D. K. Ingram, BuMines, Pittsburgh, PA.
14. Rosenbaun, D. (Kentucky Department of Surface Mine Reclamation and Enforcement). Private communication, 1990; available upon request from D. K. Ingram, BuMines, Pittsburgh, PA.
15. Jones, S. (Kentucky Mine Subsidence Insurance Fund). Private communication, 1992; available upon request from D. K. Ingram, BuMines, Pittsburgh, PA.
16. Energy Information Administration (Dep. Energy). Coal Production 1988. UC-98, Nov. 22, 1989, 144 pp.
17. Sommers, J., P. Steiner, and R. Katz. Ohio Mine Subsidence Insurance Underwriting Association Report, October 1987-December 1988. Publ. rep., Board Members, OH Mine Subsidence Ins. Underwriting Assoc., Dec. 1988, 15 pp.
18. Leslie, E. R. (Ohio FAIR Plan Underwriting Association). Private communication, 1992; available upon request from D. K. Ingram, BuMines, Pittsburgh, PA.
19. Schnurr, L. (Mine Subsidence Insurance Office, Bituminous Region). Private communication, 1991; available upon request from D. K. Ingram, BuMines, Pittsburgh, PA.
20. Ruane, L. (Mine Subsidence Insurance Office, Harrisburg, PA). Private communication, 1992; available upon request from D. K. Ingram, BuMines, Pittsburgh, PA.
21. Boone, J. B. (State of West Virginia Board of Risk and Management). Private communication, 1992; available upon request from D. K. Ingram, BuMines, Pittsburgh, PA.
22. Barnard, S. (Department of Environmental Quality, Wyoming). Private communication, 1991; available upon request from D. K. Ingram, BuMines, Pittsburgh, PA.
23. Wyoming Mine Insurance Program. Damage From Mine Subsidence Could Ruin Your Home... The Wyoming Mine Subsidence Insurance Program: The Key to Your Home's Protection. Consum. Inf. Publ. Pam., 1987, 3 pp.

Table 1.—Summary of mine subsidence insurance programs

Item	Colorado	Illinois	Indiana	Kentucky	Ohio	Pennsylvania	West Virginia	Wyoming
Start of program . . .	1988	1979	1986	1986	1987	1961	1983	1986
Source of funds . . .	Federal	State	Federal	Federal	State, Federal . . .	State	State	Federal
Administered by . . .	State and insur- ance company.	Insurance association.	State and insur- ance companies.	State and insur- ance companies.	State and insur- ance companies.	do.	State and insur- ance companies.	State and insur- ance companies.
What is insurable . .	R	R, C	R, C	R, C	R	R, C	R, C	R, C
Type of subsidence	Coal	Coal, clay, limestone, fluorspar, etc.	Coal	Coal	Coal, clay, limestone, salt, etc.	Coal, clay . . .	Coal	Coal
Maximum coverage	\$50,000	\$350,000 . .	\$75,000	\$50,000	\$50,000	\$100,000 . . .	\$75,000	\$150,000.
Annual fee:								
Residential	\$35 ¹	\$8-53	\$15-27	\$15-22	\$3-12	\$12-88	\$10-23	(²).
Commercial	Nap	\$8-53	\$24-48	\$24-38	Nap	\$63-348	\$20-46	(³).
Deductible:								
Residential	\$1,000	\$500	\$250-500	\$250-500	\$250-500	\$250	\$250	\$250-500.
Commercial	Nap	\$500	\$250-500	\$250-500	Nap	\$500	\$250	\$250-1,000.
Participation	Voluntary	Mandatory ⁴ . . .	Mandatory ⁴	Mandatory ⁴	(⁵)	Voluntary	Mandatory ⁴	Voluntary.
Number of policyholders.	1,100	350,000 . . .	60,000	37,000	13,000	40,000	110,000	1,000.
Fund balance	\$3 million	\$1.1 million	\$2 million	\$5.2 million	\$0	\$11.5 million	\$10 million	\$1.7 million.

C Commercial structures.

Nap Not applicable.

R Residential structures.

¹There is a one-time initial \$125 inspection fee.²Fee is \$2 per \$1,000 of coverage.³Fee is \$3 per \$1,000 of coverage.⁴Unless waived.⁵Mandatory in 27 counties, voluntary in 10 others.

APPENDIX.—INFORMATION ON FEDERAL AND STATE AGENCIES THAT ARE INVOLVED WITH MINE SUBSIDENCE INSURANCE

FEDERAL GOVERNMENT

Office of Surface Mining Reclamation and Enforcement
Eastern Field Operations
10 Parkway Center
Pittsburgh, PA 15220
(412) 937-2828

Office of Surface Mining Reclamation and Enforcement
Western Field Operations
1020 15th St., Brooks Towers
Denver, CO 80202
(303) 844-2459

COLORADO

Colorado Mine Subsidence Protection Program
950 17th St.
Suite 1850
Denver, CO 80202
(800) 44-MINES

Colorado Department of Natural Resources
Mine Land Reclamation Division, Inactive Mine
Reclamation Program
1313 Sherman St.
Room 423
Denver, CO 80203
(303) 866-3567

ILLINOIS

The Illinois Mine Subsidence Insurance Fund
189 Stetson
Chicago, IL 60601
(312) 819-0060

Illinois State Geological Survey
Natural Resources Building
615 East Peabody Dr.
Champaign, IL 61820
(217) 333-4747

INDIANA

Indiana Department of Insurance
311 West Washington St.
Suite 300
Indianapolis, IN 46204-2787
(317) 232-5859

KENTUCKY

Kentucky Mine Subsidence Insurance Fund
P.O. Box 517
Frankfort, KY 40602
(502) 564-6094

OHIO

Ohio Mine Subsidence Insurance Underwriting Association
6230 Busch Blvd.
Suite 303
Columbus, OH 43229
(614) 436-4530

Ohio Department of Natural Resources
Division of Reclamation
Fountain Square
Columbus, OH 43224
(614) 265-1092

PENNSYLVANIA

Mine Subsidence Insurance Fund
Department of Environmental Resources
3913 Washington Rd.
McMurray, PA 15317
(412) 941-7100

Mine Subsidence Insurance Fund
320 South Pennsylvania Blvd.
Suite 380
Wilkes Barre, PA 18703
(717) 826-2542

WEST VIRGINIA

Board of Risk and Insurance Management
307 Jefferson St.
P.O. Box 50124
Charleston, WV 25305-0001
(304) 558-2291

WYOMING

Mine Subsidence Insurance Program
Herschler Building, 3 West
Cheyenne, WY 82002
(307) 777-7063

Department of Environmental Quality
Land Quality Division,
Herschler Building, 3rd Floor West
122 West 25th St.
Cheyenne, WY 82002
(307) 777-7756