

FINAL REPORT:
INSURANCE STUDY OF SINKHOLES

Submitted to the State of Florida

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I. EXECUTIVE SUMMARY

A. OVERVIEW

Sinkhole losses have been an ongoing issue in Florida. At the request of the 2004 Florida Legislature, a feasibility and cost/benefit study of a Florida Sinkhole Insurance Facility has been conducted. Specifically, the study examines the availability, coverage options, and costs associated with various sinkhole insurance programs. This study is divided into several major sections. Section I is the Executive Summary. Section II outlines the scope of the report and the mandate of the Legislature. The background related to prior Florida sinkhole studies is provided in Section III of the document. A discussion of several single-peril facilities related to the major points of interest outlined in the legislation is contained in Section IV. Section V contains a summary of the sinkhole problem in Florida and the main points of consideration in designing a sinkhole facility. Section VI discusses the non-insurance sinkhole-related services that should be considered, regardless of the establishment of a sinkhole facility. Section VII discusses issues related to alternative dispute resolution, while Section VIII discusses the effect of sinkholes on existing statutes as they related to the availability and affordability of coverage. The final section, Section IX, provides overall conclusions and areas for further research and action. An extensive series of appendices is included with additional information related to the issues described in the report.

B. BACKGROUND

A prior study of sinkholes was conducted in 1992 by the Florida State University Center for Insurance Research.¹ The 1992 study concluded:

“Utilization of a mechanism to address sinkhole claims similar in function to the Illinois Mine Subsidence Fund has many advantages and is recommended. Such a facility can provide a centralized loss adjustment process. This feature is crucial in situations involving earth movement losses because the adjustment expenses are rather high and determination of the actual cause of loss is difficult. Additionally, it was discovered at the public hearing conducted in Dunedin and in discussions with residents that many policyholders are frustrated by what they perceive as a lack of consistent carrier adjustment practices. Education of policyholders by keeping them informed and involved in the determination of the cause of loss would be beneficial.

The use of such a sinkhole subsidence fund would restore public confidence in the adjustment process and assure the policyholders that they are being treated equally. Centralization would promote a consistent approach and would aid in the development of knowledge in this area.

A sinkhole fund could promote and help support research in the areas of sinkholes, proper remedial measures, and the insurability of other earth movement perils. A resource to maintain sinkhole data and provide service is needed. The Florida Geological Survey could perform this function and also coordinate research with the universities and sinkhole fund. In the interim, the legislative prohibition on cancellation and nonrenewals for claims should be continued.”

A follow-up report was prepared in 2002 to examine closed sinkhole claims in Florida.²

The results of the 2002 survey indicated that the problem of sinkholes in Florida had increased in both frequency and severity during the period examined (1997-2001). Specifically, the results showed: (1) an increase in the occurrence of sinkhole claims; and (2) that the frequency of sinkholes was concentrated in the central regions of the state. This was consistent with the results of the 1992 survey.

¹ A copy of the Executive Summary as well as other exhibits related to the 1992 study can be found in Appendix A.

² A copy of information related to the 2002 study can be found in Appendix B.

An examination of denial rates showed an increase in the percentage of claims denied. The denial rate in the later years of the 2002 study was higher than that found in the 1992 study. Findings from both studies indicated that the reasons for denials have been fairly consistent over the years, with most denials being associated with earth movement other than sinkholes.

C. SINGLE-PERIL INSURANCE MECHANISMS

The current report reviews several state and federal programs designed to cover subsidence and other single-peril losses. Due to the similarities of the perils of mine subsidence and sinkholes, mine subsidence facilities provide a natural basis from which to develop a potential model for a Florida Sinkhole Insurance Facility. In addition, the California Earthquake Authority (CEA) and the National Flood Insurance Program (NFIP) are reviewed. The key facets of the programs discussed are: (1) facility placement and governance; (2) financing and method of operation; (3) claims handling procedures; (4) eligibility, coverage, and pricing; (5) financial status of the facility or programs; and (6) availability of data and informational resources. A summary of these facets for each facility can be found in Appendix D.

The six mine subsidence facilities examined are located in Pennsylvania, Illinois, West Virginia, Kentucky, Indiana, and Ohio. Generally, the facilities are housed within a governmental agency, which in some cases is the Department of Insurance. Typically, the facilities are managed by a board consisting of individuals working within the insurance industry as well as governmental employees such as the commissioner/superintendent of insurance and the state treasurer. In addition, most of these facilities function as reinsurers. The exception is the mine subsidence fund in Pennsylvania, which operates as a direct insurer.

In half of the states, claims investigations are handled through the facility, while in the other half, insurers are responsible for the initial claims investigation. Most of the facilities require insurers to offer coverage in certain counties, either within the property contract or through an endorsement. However, insureds can waive coverage in all states but Ohio. In Ohio, insureds cannot waive coverage in mandatory counties, which are the counties that are most susceptible to mine subsidence losses. The coverage provided, coverage limits, and pricing vary greatly across subsidence funds. For example, some of the facilities cover property at

replacement cost while others cover property on an actual cash value basis. Also, the maximum amount of coverage available varies considerably, from a low of \$50,000 in Ohio to a high of \$350,000 in Illinois. Finally, although almost all states have rates of a set amount per block of coverage, the cost of coverage per \$1,000 calculated at the highest limit for each state ranges from \$0.27 in Kentucky to \$0.83 in Pennsylvania. Ohio's facility is an exception. The cost of coverage in Ohio is a flat rate of \$1 in mandatory counties and \$5 in optional counties, which provides \$50,000 in coverage. This equates to a cost of \$0.02 per \$1,000 of coverage in mandatory counties and \$0.10 per \$1,000 of coverage in optional counties.

Based on the financial information available, the facilities all appear to be financially sound, earning sufficient premiums to cover administrative expenses and claims costs. In addition, most of the facilities have publicly available information on mine subsidence, the mine subsidence insurance program, and how to obtain coverage. Some states provide additional information including mine maps, claims information, and financial reports.

The California Earthquake Authority offers earthquake insurance to all residents through a network of participating insurers. The average cost of the insurance is \$2.79 per \$1,000 of coverage, with the actual cost varying based on factors such as proximity to known fault lines (estimated by zip codes), the age of the structure, and the construction type. There are several differences between the CEA and most mine subsidence funds. The CEA has both a board and a twelve-member advisory panel. In addition, the maximum amount of coverage a resident can buy is not capped in absolute dollars. The limit is the Coverage A (Dwelling) limit on the existing homeowners' policy. Coverage is provided for the dwelling and personal property, but not other structures. A small amount of loss of use coverage (Coverage D) also is available. Another difference is the structure of the deductibles offered by the CEA. They are much larger

than those in a typical homeowners' policy, either ten percent (10%) or fifteen percent (15%) of the Coverage A amount.

The National Flood Insurance Program is a federal program, housed within the Federal Emergency Management Administration. Federally regulated or federally insured lending institutions may require the purchase of flood insurance through the NFIP if a home is located in a Special Flood Hazard Area. The limit of coverage available is the lower of \$250,000 or the Coverage A limit, and there is an array of available deductible levels, ranging from a low of \$250 to a high of \$5,000.

D. ISSUES RELATED TO ESTABLISHING A FLORIDA SINKHOLE FACILITY

The growth of sinkhole claims within certain regions in Florida and the high cost associated with investigating and paying these claims appear to be related to an increase in the number of policyholders obtaining residential property insurance outside of the private insurance market. Section V reviews the options available and the factors that should be considered if the Legislature determines that the creation of a sinkhole facility in Florida is desirable.

The history of state responses to insurance market problems related to automobile insurance, worker's compensation insurance, property and windstorm insurance, earthquake insurance, flood insurance, and mine subsidence insurance provides examples of different approaches to the structure of residual market mechanisms. Traditionally, most residual market mechanisms have been established as free-standing insurance operations, organizationally separate from the state government that created them. On the other hand, most of the mine subsidence funds were established within state agencies, although they typically outsource certain functions. As such, these are both options to be considered in the creation of a sinkhole facility in Florida. Another approach would be to establish a sinkhole facility as a component of an existing entity to gain access to its administrative resources. Each of these options has both benefits and drawbacks, as discussed in Section V.

While the governing boards of most residual market mechanisms have traditionally been comprised entirely or primarily of insurance company representatives, several of the mine subsidence funds are under the control of either: (1) the insurance commissioner or another state official; (2) entities such as the state board of risk and insurance management or the state risk and insurance division housed within the insurance department; or (3) boards made up of state officials including the secretary of environmental resources, the director of natural resources, the

insurance commissioner, and the state treasurer. In order to qualify for an exemption from federal taxation, the sinkhole facility must demonstrate that it is an integral part of the state. As such, the governance issue is critical as the Internal Revenue Service (IRS) will look carefully at the nature and degree of control that the state has over the sinkhole facility. Section V provides the specific information that is considered by the IRS in making this determination.

Another issue to consider is financing. A determination must be made regarding the facility's initial funding as well as options for assuring the facility's long-term financial capability to meet its claim obligations during periods of financial distress. The state can decide not to assume responsibility for financial shortfalls in a residual market mechanism as it has in the past. Alternatively, like some of the mine subsidence funds, the state can decide not to require payment of claims by an insurance company if there is insufficient cash available to reimburse the insurer for losses ceded to the facility. The financing options available and their advantages and disadvantages are discussed in detail in Section V.

If a sinkhole facility is established, it must be determined if the facility will operate as a direct insurer or as a reinsurer. Generally, in the case of facilities operating as reinsurers, the facilities reimburse insurers for covered losses paid as a result of the insured peril. In the case of the facilities operating as primary insurers, the facilities take on the role of writing coverage directly for insureds without using the resources of primary insurers. In each case, the scope of responsibilities and the services provided by the facility can vary. A careful analysis of the nature and size of the tasks to be performed is needed before a final decision on the structure of a facility can be made.

Another important set of issues relates to coverage options, coverage availability, and pricing. Each of the states with mine subsidence funds has had to address: (1) whether the policy

will provide coverage for the dwelling only (Coverage A), structures only (Coverages A and B), or all property losses (Coverages A, B, C, and D) and if coverage for repairs to the land will be provided; (2) whether the property will be covered on a replacement cost or actual cash value basis; (3) what amounts of coverage can be purchased; (4) whether coverage will be available in all or part of the state and whether the coverage will be mandatory or optional; and (5) whether damaged properties that are not repaired will be considered insurable. This report reviews some of these options and their implications regarding subsidization, adverse selection, and cost of coverage.

This report uses homeowners' insurance policy and loss data for the period 1997 through 2003 in order to: (1) evaluate sinkhole loss costs trends; (2) develop expected loss costs related to sinkhole losses; (3) evaluate the funding options and costs of operating a facility to cover sinkhole losses; and (4) provide an estimate of premiums to cover sinkhole losses. The data come from a group of insurers that represent over forty-five percent (45%) of the residential homeowners' insurance market in Florida. The data used in trending loss costs are from the period 1999 through 2003. Additionally, maps provided in Appendix M show sinkhole activity from the United States Geological Survey (USGS) and Florida Geological Survey (FGS) databases as well as the insurance sinkhole loss data used in this study.

During this period, the number of sinkhole claims grew from 348 in 1999 to 1,018 in 2003. The severity of sinkhole losses is even more significant. Total sinkhole loss payments increased from just over \$22 million in 1999 to in excess of \$65 million in 2003. In addition, statewide loss cost estimates for masonry construction increased each year and are projected to reach \$.398 in 2006. This represents a fifty-five percent (55%) increase in trended loss cost over the 10-year period.

This report also provides smoothed loss costs where zip codes are placed into loss cost groups based upon the magnitude of the individual zip code loss cost. This is meant to reduce potential problems with individual zip code experience caused by low frequency, moderate-to-high severity events like sinkhole losses. Grouping by high to low loss cost also shows the significance of these losses when they do occur. Assuming a Coverage A limit of \$200,000, the additional charge to premium for the high cost group would be \$1,970 (as compared to \$79 using the statewide average loss cost). The loss cost estimates should be considered as a starting point in effectively determining future sinkhole loss costs.

In order to provide additional information on the feasibility of operating a sinkhole facility, cost estimates for a facility were obtained from Citizens' Property Insurance Corporation (Citizens). Based on 2,000 sinkhole losses, cost estimates were provided for: (1) a reinsurance facility where the insurers would cede one hundred percent (100%) of the sinkhole coverage to the facility; and (2) a direct sinkhole insurance facility where the insurers would write coverage without the sinkhole exposure and the facility would write the sinkhole exposure. Assuming 2,000 sinkhole claims, an amount of approximately \$9,944 per claim would initially be needed for loss adjusting expenses associated with adjusting sinkhole claims. Using this loss adjustment expense and the statewide loss costs estimates, the statewide average premium per \$1,000 of coverage was calculated to be \$.553 for masonry construction and \$.195 for frame construction.

In reviewing the sinkhole losses in map form, it appears that there are differences between the pattern of geological sinkholes and insured sinkholes. Differences even appear in sections of the state where there are known sinkholes and sinkhole losses. Three possible explanations for these differences exist: (1) the losses may result from sinkholes that are not in either the USGS or FGS databases; (2); the insurance loss may be incomplete due to the lack of

participation of some insurers in the data call; and/or (3) the differences may reflect the underlying inconsistency between the geological definition of a sinkhole and how it is defined in the insurance contract. Assuming that the insurance and geological samples are representative of trends, the latter explanation is possible, especially considering the concerns raised by representatives of the geoscience community over the definition of sinkhole activity. These issues are more fully discussed in Section VI.

E. NON-INSURANCE SINKHOLE-RELATED SERVICES

There are several non-insurance services that must be considered in order to effectively manage the Florida sinkhole exposure. The first relates to training, communication, and education for the public, engineers, the construction industry, insurance professionals, and others. Examples of the types of material and activities used for these purposes are provided in the analysis of the CEA, NFIP, and mine subsidence funds in Section IV. It is suggested that these functions be performed by a single organization in order to minimize duplication of efforts and inconsistencies in information. Further, it is likely that there will be economies of scale if the information is produced by a single organization.

One suggestion for these services would be the use of an entity such as the Florida Geological Survey. This entity has technical expertise in the area of sinkhole issues. Further, by housing the services independently from a potential sinkhole facility, services would not be interrupted in the event the financing mechanism for sinkholes is altered.

Another significant issue relates to the identification and adjustment process for sinkhole claims. Based on the findings of the “Sinkhole Summit II” and a subsequent meeting on remediation, both of which are discussed in Section IV, it appears that the creation of a uniform adjustment process may decrease the number of sinkhole claim disputes as well as the total costs associated with these claims.

The participants of the “Sinkhole Summit II” suggested that specific protocols be used in the identification of sinkholes. However, they also emphasized that good professional judgment will dictate testing in each case. Similarly, in a remediation seminar, several suggestions were made to aid in the development of uniform remediation standards. Key issues arising from that discussion include: (1) the need for remediation to be based on scientific determination by a

qualified professional; (2) the need for further advances in remediation technology; and (3) the need to improve the quality of a sinkhole database.

One method to achieve the increases in uniformity of the identification and claims adjustment process is to centralize the sinkhole claims function. States such as Illinois have used this approach for mine subsidence. Illinois currently uses designated adjusters along with a team of geologists and engineers employed by the Illinois Mine Subsidence Fund for the adjustment of claims. This allows for increased assurance that the claims will be adjusted in a fair and consistent manner. If those involved in the process also effectively communicate with the insureds, this process also should reduce the number of claims disputes.

A final issue surfacing from the “Sinkhole Summit II” involves the need to clarify the definition of a sinkhole to more accurately describe the geological event occurring. Also of concern was the precise meaning of the phrase “sinkhole activity.” By tightening the definitions in the statutes and implementing uniform adjustment procedures, the hope is that the number of claims disputes can be reduced.

In addition to the issues cited above, there are certain consulting services that would assist Florida insurers in the coverage of sinkholes. One such service relates to the collection of sinkhole data. These data will aid insurers in the pricing of coverage. Further, it will assist those tasked with the identification and adjustment of claims in a timely and effective manner. There are two reasons for housing this service independently of a potential residual market mechanism. First, the services could continue uninterrupted even if the sinkhole financing mechanism changes. Second, by centering these services in an entity with added background in the geotechnical issues related to sinkholes, it would allow a potential residual market facility to focus solely on the insurance-related issues. This function was originally performed by the

Florida Sinkhole Research Institute. Since its dissolution, there has been no centralized collection point for sinkhole activity. The FGS currently collects data on an *ad hoc* basis. The FGS database is likely to be incomplete based on the lack of required reporting as well as financial and personnel constraints at the FGS.

F. ALTERNATIVE DISPUTE RESOLUTION

Because of the potential for disagreements to occur between insureds and insurers, some method of alternative dispute resolution (ADR) may be needed to reduce conflict and the associated delay and expense of litigation. There are several types of ADR mechanisms with the most common forms being arbitration, mediation, mediation-arbitration, neutral case evaluation, mini-trial, summary jury trial, and “rent-a-judge.” The ADR process currently in use in Florida is mediation as described in Section 627.7015, F.S. The major characteristics of the process are: (1) mediation is available to both claimants and insurers prior to commencement of the appraisal process or litigation; (2) the costs of the mediation are borne by the insurer (with some limited exceptions); (3) the mediation is nonbinding; and (4) the insurer loses the right to any contractual loss appraisal process if the insurer requests the mediation and the results are rejected by either party.

While the intent of mediation is to resolve conflict in an expedient and cost-efficient manner, some of the characteristics of the mediation process used in Florida may impact its effectiveness by altering one or more parties’ interest in a successful outcome. For example, the provisions of the current Florida statute may reduce the insured’s incentive to reach a good faith settlement through the mediation process given that it is non-binding and all costs are borne by the insurer. This is in contrast to the ADR method used in Illinois in which the costs of the arbitration are borne by the losing party.

Other factors that may be necessary to consider when deciding what form of ADR is most appropriate for sinkhole-related disputes include: (1) the problems involved in determining whether a sinkhole is the actual cause of loss; and (2) the legal environment in the state. Related to the first issue, the use of experts in the claims handling process may be appropriate. This can

be done by hiring and training specialized adjusters as well as using the expertise of engineers and geologists to make a determination as to the actual cause of loss. In the event a sinkhole facility is established, the facility could contract with or employ specialized geologists, engineers, and adjusters to bring about a uniform adjustment process. In this case, any arbitration or litigation regarding the cause of loss would be between the policyholder and the sinkhole facility, rather than between the policyholder and the insurer. If a facility is not established, another state agency could perform the adjustment function. In this case, any dispute would be between the insurer and the insured.

In addition to the use of specialized professionals in the adjustment process, changes to the ADR process may be a viable option. For example, professional geologists or engineers with specialized expertise in the identification and remediation of sinkhole losses could be utilized in the arbitration or mediation process.

Related to the first issue, the legal environment in Florida also is a consideration in developing an appropriate method of alternative dispute resolution for sinkhole losses. Section 624.155, F.S., allows any person to bring a civil action against an insurer when that person is damaged by bad faith actions on the part of the insurer. In addition, Section 627.428, F.S., Attorney's Fees requires insurers to cover an insured's attorney's fees when judgment is against the insurer. These statutes are intended to: (1) encourage insurers to meet their obligation of good faith and fair dealing in the settlement of claims; (2) give insureds any damages to which they are entitled as a result of an insurer's bad faith actions; and (3) protect a successful claimant from the potentially onerous legal costs of pursuing legitimate claims against an insurer. However, they increase the potential costs of sinkhole claims and hence complicate the resolution of disputes.

One method of ADR that addresses these issues is non-binding arbitration, again utilizing expert arbitrator(s), but with adjustment to the availability of remedies related to bad faith and attorney's fees to the party rejecting the decision of the arbitrator. In that circumstance, the parties would retain the right to litigate since the arbitration is non-binding, but entitlement to damages for bad faith or attorney's fees would be adjusted. A final ADR option could be to use an administrative remedy within the Office of Insurance Regulation or other appropriate entity. In this case, the insured would be able to request a hearing if not satisfied with the decision of the insurer or facility.

G. EFFECTS OF STATUTES ON AVAILABILITY AND AFFORDABILITY

There are several other Florida statutes that both directly and indirectly relate to: (1) coverage for the peril of sinkholes; (2) investigation standards for suspected sinkhole claims; and (3) the cost of litigation. Section 627.706, F.S., requires that insurers make coverage available for structures and personal property for “insurable sinkhole losses.” Currently, insurers have complied with this statute by including sinkhole coverage in property policies. It is common in states in which coverage for mine subsidence has been mandated that insurers are required to offer coverage on a statewide basis or in counties most susceptible to subsidence losses. However, insureds are generally allowed to waive coverage. While this approach could be implemented in Florida without the need to make a change to the existing statute, there is the potential for adverse selection. Specifically, it is possible that if the coverage is elective, only those insureds in the most sinkhole-prone areas would purchase the coverage, thus increasing the overall ratio of losses to premiums in these areas. This could lead to problems with both affordability and availability.

With respect to claims investigation, Statute 627.707, F.S., requires that the insurer make an inspection of the insured’s premises to determine if there has been any physical damage to the structure that might be the result of sinkhole activity. If that inspection shows damage to a structure that is consistent with sinkhole activity, or if the structure is located in close proximity to a structure in which sinkhole damage has been verified, then the insurer may deny the claim only after further requirements are met. Specifically, the insurer can deny the claim only if it can show that: (1) the cause of the damage is not sinkhole activity; and (2) the analysis conducted was of sufficient scope to eliminate sinkhole activity as the cause of damage within a reasonable professional probability. Finally, the current statute also provides that no insurer may nonrenew

any policy of property insurance based on the filing of claims for partial loss caused by sinkhole damage or clay shrinkage, as long as: (1) the total of such payments does not exceed the current policy limits of coverage for property damage; and (2) the insured has repaired the structure in accordance with the engineering recommendations upon which any payment or policy proceeds were based.

The first condition for denial requires the insurer to prove a negative – that is, to prove that the cause of the damage is *not* sinkhole activity. As noted in Section VI, there is some ambiguity in the term “sinkhole activity” that may make the determination of a sinkhole loss more difficult. Revising the statute that defines a sinkhole may make it easier to distinguish a sinkhole loss from other losses that can result in earth movement. The second condition for denial requires an investigation of sufficient scope to eliminate sinkhole activity as the cause of damage within a reasonable professional probability. This may increase the loss adjustment expenses of these claims. The establishment of uniform adjustment processes as discussed in Section VI would likely serve to create a more consistent benchmark of adequate investigative procedures that may help reduce the costs associated with investigation. These changes together could result in faster claims processing and a reduction in the costs related to disputes. As such, this could increase insurers’ willingness to provide coverage and keep the coverage affordable.

The nonrenewal provision of the statute relates directly to the issue of continued availability of coverage by limiting the circumstances under which an insurer may nonrenew a property insurance policy based on the filing of claims for partial loss caused by sinkhole damage. As discussed in Section V, currently Citizens is not required to insure homes which have been deemed total losses due to damages sustained from the peril of sinkhole. In addition, in cases of partial loss, the home may be uninsurable if the repairs are not made in compliance

with the recommendations of an engineer. The homeowner may later be able to obtain coverage if an engineer certifies that the repairs have been made and the home has been stabilized. Alternatively, a major insurer has filed a form that would provide limited coverage for cosmetic repairs but not pay for substantial repairs until after they are made. These are both viable options.

The statutes related to the cost of litigation that could indirectly affect the availability and affordability of sinkhole coverage are Section 624.155, F.S., and Section 627.428, F.S. Section 624.155, F.S., allows any person to bring a civil action against an insurer if an insurer: (1) violates a specified statutory provision; or (2) commits a prohibited act, one of which is “not attempting in good faith to settle claims when, under the circumstances, the insurer could and should have done so”. As mentioned above, the purpose of this statute is to encourage insurers to operate in good faith in settling claims and to provide appropriate damages to those injured when an insurer acts in bad faith. However, because of the specific language of the statute, bad faith related to the settlement of insurance claims is determined based on the circumstances of each case rather than on a defined standard that is applicable to all situations or behaviors. With respect to sinkhole claims, the absence of such a standard may lead to increased litigation. Section 627.428, F.S., allows the court to order an insurer to pay reasonable attorney’s fees or compensation to the insured’s attorney when the judgment is against the insurer. As noted in the previous section, the purpose of this statute is to protect a successful claimant from bearing potentially large legal costs in pursuing a legitimate claim against an insurer.

Taken together, these statutes are intended to level the playing field between insureds and insurers. However, these statutes may put insurers in a position in which the most cost-effective method of dealing with sinkhole claims is to simply pay them, rather than risk a judgment for

bad faith damages and claimant attorneys' fees after already incurring the considerable costs associated with adjusting these claims. As such, this may result in an increase in the cost of coverage.

Potential options for dealing with this issue as discussed in other areas of this report include: (1) altering the wording of the statute that defines sinkhole activity to remove any ambiguity in the wording; and (2) developing a mechanism for uniformity in claims handling procedures. These changes may serve to reduce disputes, thereby reducing allegations of bad faith. However, the effects of any such changes must be weighed against their potential impact on the ability to achieve the statutory goals of encouraging good faith on the part of insurers and compensating those injured by an insurer's bad faith actions.

H. CONCLUSION

Based on a review of options utilized by other states, Florida has three basic options related to coverage for the peril of sinkhole: (1) keep the coverage for sinkhole losses within the homeowners' policy but allow insurers to rate for it; (2) establish a facility to which insurers would cede all sinkhole coverage; (3) establish a facility to operate as a direct insurer for sinkhole losses. Each of these options has advantages and disadvantages, which are discussed in detail in the report.

Regardless of the method by which the coverage will be provided, the state of Florida should consider: (1) changes to the definition of sinkhole loss and activity to address geologists' concerns about ambiguity; (2) working to create uniform procedures for adjustment of claims utilizing experts; and (3) establishing a data warehouse to store sinkhole claims information. In addition, the development and implementation of a specific ADR procedure would be useful in controlling claims expenses.

II. INTRODUCTION

The 2004 Florida Legislature mandated that a study of the feasibility and cost/benefit of a Florida Sinkhole Insurance Facility and other matters related to affordability and availability of sinkhole insurance be conducted. The study was completed by the Florida State University, College of Business, Department of Risk Management/Insurance, in consultation with the State Board of Administration and the Florida Geological Survey (FGS).

The legislative mandate provided that the study analyze the potential functions of the facility including:

1. Serving as the direct insurer or the reinsurer for all or some sinkhole losses.
2. Providing training, communication, and other educational services to the public, engineers, the construction industry, insurance professionals, or others.
3. Providing uniform standards for use by insurers in evaluating sinkhole loss claims.
4. Providing consulting services for insurers.
5. Maintaining a public database of all confirmed sinkholes and paid sinkhole loss claims for use by consumers and by the insurance, building construction, banking, and real estate industries.

The legislation also provided the feasibility study address the following issues:

1. Where the facility should be housed, including, but not limited to, the options of creating a separate facility or using the Citizens Property Insurance Corporation or the Florida Hurricane Catastrophe Fund.
2. Federal income taxation implications.
3. Funding options and costs associated with operating the facility, including means of funding sinkhole insurance through premiums that are adequate to fund covered losses.
4. Applicability of the experience of similar facilities of other states.
5. Other economic impact considerations pertinent to a facility.
6. Alternative dispute resolution mechanisms.
7. The impact of all present requirements in the Florida Insurance Code on the affordability and availability of sinkhole insurance and recommendations to address such impacts.

As such, this study will focus on the methods employed to manage single-peril exposures. These methods include reinsurance facilities and government-sponsored insurance. These devices will be discussed generally. The report will then analyze in detail the pertinent

issues with respect to the sinkhole problem in Florida and provide some recommendations for addressing these issues.

III. BACKGROUND

A. SUMMARY OF THE 1992 REPORT³

A study of sinkholes was conducted by the Florida State University Center for Insurance Research in 1992. The research team found that many of the problems that existed in 1969, when Florida first addressed the issue of insurability of sinkholes, remained. In 1969, a reinsurance facility was put in place to cover the peril of sinkhole loss. That reinsurance facility was rendered obsolete by the fact that very few policyholders purchased the optional sinkhole coverage. Subsequently, the coverage was added as a covered peril in the homeowners' policy.

The 1992 study addressed:

1. The rate impact of sinkhole damage upon homeowners' insurance coverage.
2. The effect of sinkhole occurrences on property values.
3. Residual market mechanisms and their need to provide insurance to qualified risks who are otherwise unable to purchase insurance.
4. Claims standards and the practices in adjusting sinkhole claims.
5. The need for an ongoing facility to collect and disseminate sinkhole information and to conduct research on the formation and occurrence of sinkholes.
6. The insurability of earth movement.

A summary of the findings pertaining to the six subject matter areas follows.

1. Rate Impact⁴

With regard to the rate impact of sinkhole damage upon homeowners' insurance, the study used insurance data for its analysis that was collected from the responses of eleven insurance companies to a mail survey. These eleven companies wrote about fifty-five percent (55%) of the homeowners' premiums in 1990, and thus should have provided a representative sample. There was some concern that the data received as a result of this survey were not

³ A complete copy of the executive summary of this report can be found in Appendix A.

⁴ A copy of supporting exhibits related to rate impact compiled from the 1992 study can be found in Appendix A.

accurate. The study found that while the data were not completely reliable, they were indicative of trends.

The data indicated that both the frequency and severity of sinkhole claims increased dramatically over time. The number of sinkhole claims made rose significantly between 1987 and 1991. During the last year of the study alone, the number of claims increased by 250. During the same period, the amounts expended to pay sinkhole losses and related loss adjustment expenses grew significantly, both in absolute terms and by almost a factor of ten as a percentage of premiums (from .006% in 1987 to .052% in 1991). Sinkhole losses, on average, also were much larger than the typical home property loss (approximately twenty times as large as the average homeowner claim in 1990 and 1991).

In spite of these rapid increases in frequency and severity, sinkhole losses still represented a very small portion of the premium dollars. In addition, at the time of the 1992 study, the problem was restricted in large part to the Tampa Bay area, though sinkhole activity was a possibility throughout a large area of Florida. Since there was no explicit rate charged for sinkhole coverage and no distinction was made with regard to territory, it was clear that homeowners throughout the state were subsidizing those in the high-risk areas. The equity of such a subsidy was questioned.

The question also arose as to whether the indicated trends in loss frequency and severity would continue in the future. The limited reliability of the insurance company data, particularly prior to 1990, made it difficult to formulate long-term predictions. In addition, the incidence of sinkhole activity was dependent upon a number of factors not measurable from the insurance claims data. Apart from the geological make-up of the earth, factors such as weather, population

growth, land development, and water usage appeared to play a role in the occurrence of sinkholes.

2. The Effect on Property Values⁵

To examine the effect that sinkhole occurrences had on property values, two primary methods were employed. First, a survey methodology was used to obtain the perceptions of government officials and market professionals. An empirical methodology was then employed to examine house price movements in response to sinkhole events.

Elected county property appraisers, independent fee appraisers, and real estate brokers were surveyed to obtain their perceptions of possible changes in housing prices due to sinkhole occurrences. Of the sixty-seven elected property appraisers surveyed, eighteen reported some sinkhole activity in their county. Only a very small percentage reported the presence of sinkhole occurrences in populated areas with an accompanying request by owners for reassessments of their taxable values. There was no discernable trend in the size of the adjustment made to the taxable values of affected properties.

Of the independent fee appraisers surveyed, most (70%) had not had experience appraising properties directly affected by sinkholes or near sinkhole sites. Of those who indicated experience with such properties, most made adjustments based on the cost to correct. For both properties directly affected and those located near sinkhole sites, the adjustments varied considerably. Again, as reported for the elected property appraisers, no consistent value effect was apparent. The value effect ranged from zero to one hundred percent (0% - 100%) for

⁵ A copy of the supporting exhibits related to the effect on property values from the 1992 study can be found in Appendices A.

properties directly affected, and from zero to thirty percent (0% - 30%) for those located near a sinkhole occurrence.

A survey of real estate brokers yielded results consistent with the surveys of both elected county property appraisers and independent fee appraisers. Real estate brokers indicated, in general, that while property values were affected by sinkholes, the size of the effect varied considerably. Over twenty percent (20%) of the brokers indicated that houses directly affected by a sinkhole could commonly experience a forty percent (40%) reduction in value. In addition, a large majority of the brokers surveyed indicated properties proximate to sinkhole occurrences were substantially influenced.

It appeared that while there was a consensus in the market that property values were substantially affected by sinkhole occurrences, there was little consensus as to the size of the effect. It seemed likely that the effect on property value was related to the size of the sinkhole, distance to the sinkhole, the amount of time that had passed since the occurrence, and the degree of publicity surrounding the occurrence. These issues were examined in the empirical portion of this section. Unfortunately, the data available were quite limited, largely because the value (sale price) of properties which have not sold is not observable, and the extent of the property damage to a specific property is not known. However, noting these limitations, *average* price movements were estimated.

Empirical estimates were conducted on two substantially different sets of data. Initially, fifty-two Orange County properties that were affected by single sinkhole occurrences were identified and examined. The model estimates suggested that adjacent properties experienced slight average declines of about five to ten percent (5% - 10%). However, the estimates were not statistically significant from zero, suggesting a wide dispersion of price effects. Surprisingly, no

measurable value impact was found for properties directly affected by a single-area sinkhole occurrence. The most likely explanation for this is that limited transaction data exist for directly impacted properties sold *after* the sinkhole event, possibly because properties that were dramatically affected were not sold. They may have been abandoned, or they may have been held throughout the sample period.

Second, the impact that *concentrated* sinkhole occurrences had on single-family property values was examined using data from Pinellas County (Dunedin area). Estimates indicated that widespread property value declines had not occurred throughout the city of Dunedin. Property values in Dunedin had moved consistently with those of Pinellas County and the city of Largo. All of the areas examined experienced slight declines in single-family residential property values in 1991.

Property values declined significantly in Section 35 (Township, Range, and Section 28S15E35) of the city of Dunedin relative to other areas in Dunedin (and Pinellas County). Section 35 includes the Patricia/Lakewood Estates area, an area characterized by a large number of reported sinkhole occurrences. Comparing indexes for the areas studied suggested that Section 35 had experienced an average loss in property values of twenty percent (20%) since 1990. It was noted, however, that individual properties were purchased, from July of 1990 to July of 1992, for prices both consistent and substantially lower than similar properties located elsewhere in Dunedin.

Statistical regression estimates suggested that informed buyers, those aware of the neighborhood sinkhole occurrences at the time of purchase, purchased properties in the Patricia/Lakewood Estates area at prices approximately 38.5 percent (38.5%) below similar properties in unaffected areas of Dunedin. Uninformed buyers purchased residences in the

Patricia/Lakewood Estates area at a discount of 9.8 percent (9.8%), from February 1991 to July 1991, relative to other similar properties in Dunedin. Finally, estimates indicated that the value effects to other properties extended approximately one mile from the center of the Patricia/Lakewood Estates area. Thus the effect on value, on average, declined at a rate of twenty-five percent (25%) per quarter mile from the Patricia/Lakewood Estates area.

3. Residual Markets

With regard to residual markets, the 1992 study noted the need for residual markets when insurance is unavailable. Individuals experienced difficulty in obtaining coverage when they had received payment for a claim but had not made the repairs. These individuals continued to occupy the premises and coverage was available through the surplus lines market or through a tenant homeowners' policy or other policy form.

Sinkhole claims present the problem of ascertaining the exact cause of loss. Was the loss due to a sinkhole or to another peril? Illinois had experienced a similar problem regarding the cause of loss with the peril of mine subsidence. The utilization of a mechanism similar to the Illinois Mine Subsidence Fund to address sinkhole claims in Florida was suggested. The use of consulting adjusters and geologists and engineers with specialized expertise was suggested to alleviate the problem of inconsistent results being reached as a result of utilization of inappropriate means of determining cause of loss.⁶

⁶ A detailed discussion of the current subsidence and residual market facilities, including the Illinois Mine Subsidence Fund, is included in Section IV of this report. A general summary comparing the facilities is contained in Appendix D.

4. Claims Standards

With regard to claims standards, the study found the practices of insurers to be consistent with the adjustment of other types of loss. However, one unique feature of the adjustment of sinkhole claims was the reliance upon and deference to the opinions of the professional geologist or engineer utilized in the examination of the site. The research team held a “Sinkhole Summit” and found that there was no uniform set of criteria that can be universally applied to the investigation of sinkhole claims. Rather, the determination of the cause of loss was very site-specific and required an evaluation by highly trained individuals who possessed great expertise. It was recommended that a list of guidelines be compiled. This list of guidelines relied heavily on the professional judgment of the geotechnical expert in its application. If the expert decided not to pursue an item on this checklist, the rationale should be noted in the report. Specific minimum guideline recommendations included a description of pre-site, on-site, and detailed site assessment issues which should be addressed. Furthermore, it was highly recommended that:

1. soil tests be required in areas of the state with a known presence of shrink/swell clay;
2. building codes be improved to conform with the Southern Building Code Congress International (SBCCI) “deemed to comply” standard and be enforced; and
3. the results of the geotechnical investigation be given to the homeowners in layman’s terms.

Because of the unique nature of sinkhole losses and the necessity for an *ad hoc* evaluation of losses, as well as an expert’s evaluation of what testing standards are appropriate in a given instance, it was suggested that a procedure that would centralize evaluation and utilize highly trained, highly competent professionals who would uniformly approach the problem would be desirable.

With regard to the effectiveness of the efforts to repair damage, the results of a telephone survey of thirty-two homeowners who had sinkhole damage repaired indicated approximately forty-four percent (44%) experienced subsequent damage. The findings of this small sample survey suggested that repair methods were somewhat unreliable. Further specialized investigation of this expensive repair process was suggested to explain why subsequent damages occurred.

5. The Need for an Ongoing Sinkhole Information and Research Facility

With regard to the need for an ongoing facility to collect and disseminate information, there was general agreement among the geologists, engineers, and academic institutions surveyed that an ongoing facility to collect and disseminate sinkhole information and to conduct research on the formation and occurrence of sinkholes was needed. The increase in sinkhole activity and the resulting difficulties it created for homeowners, insurers, agencies, and local governments highlighted the importance of identifying, explaining, and predicting sinkhole occurrences and related phenomena. It also led to a broad-based interest in the information that would be collected by such a resource center. At the same time, the demise of the Florida Sinkhole Research Institute had already resulted in the decentralization of the existing sinkhole database and a lack of coordination of the activities of these interested parties.

The respondents and proposals submitted to the research team generally agreed that the FGS should play a central role in the development and maintenance of a sinkhole database. In addition to its own proposal, the responses from both Florida State University and the University of South Florida indicated that the FGS should be used as the central clearinghouse for the collection of sinkhole data and for its dissemination to the public. The FGS has considerable

experience in fulfilling this role, as well as established facilities and personnel in both the geological and administrative support staff areas.

6. The Insurability of Earth Movement

Damage to land can result from many different perils, natural and man-made, subtle and dramatic. For example, perils such as toxic chemicals, erosion, sinkholes, liquefaction, and earthquakes, among others, can cause damage to land. Some coverage exists, however, only for some sudden and dramatic earth movement perils such as volcanic eruption. Even in cases in which coverage for some earth movement perils is provided, such as in the standard homeowners' policy, the 1992 study noted the damage to the land was not covered.

The lack of coverage for land is partially attributable to the long-term nature of damage caused by subtle earth movements because of the problems associated with recognizing and identifying both the time and cause of loss. These problems are not normally encountered in the provision of first-party property insurance coverage. Subtle earth movement damage cannot always be considered unexpected or fortuitous, and, thus, raises the issue of "adverse selection."

Also, in many cases, human action is involved in the cause of subtle earth movement damage—either by creating the cause of loss (e.g., removing coal from under the ground surface) or by increasing the probability of loss (e.g., utilizing inadequate construction practices in areas where earth movement can be expected to occur). Although people are almost always involved in causing these losses, it is usually very difficult to isolate the responsible parties. Even if identification is possible, case law, statutory limitations, and/or the costs of litigation often discourage, if not prevent, pursuing recovery from those responsible for the damage.

When the concept of indemnification is applied to subtle earth movement, several questions must be addressed. First, many questions arise as to the extent to which first-party property insurance coverage for structures should respond to loss mitigation activities involving the land instead of the structure. Other questions deal with how policy limits, loss adjustment,

and loss payment obligations can respond to damages and losses that occur over a period of time—often longer than the usual one-year policy period. Issues associated with the concept of “constructive total loss” must be considered. Additionally, many property policies exclude coverage for foundations because they are not affected by such property insurance perils as fire or windstorm, yet the foundation is most affected by earth movement. Current repair and reconstruction techniques do not contemplate continuing damage, and it is questionable whether they will, at least in the near future. Further consideration is needed concerning how deductibles, aggregate limits, and other policy conditions might prevent claims for “normal maintenance” losses (e.g., cosmetic damage caused by seasonal shifting or normal settling). Finally, the issue of the value of the insured property and how that value is assessed and/or changes as the earth movement event continues has to be addressed.

However, coverage for earth movement might be feasible at a relatively affordable premium under the following conditions:

1. where the environment is stabilized through relatively consistent and predictable land use and construction standards and controls;
2. when standard, cost-effective repair techniques are applied;
3. if policy conditions are specific regarding the limits and extent of coverage;
4. where the coverage is purchased by a large enough percentage of the potential market; and
5. where the coverage is provided by a single source which could employ “economies of scale” in cause and origin determination, and thereby control the expense of the activity to a level which, when distributed over a large enough number of insureds, might be affordable.

Before serious consideration can be given to losses from subtle earth movements, these issues must be addressed. Without resolution of these issues, the losses from subtle earth movement are not likely to be sufficiently predictable in the aggregate to develop a reasonable measure of overall loss. Consequently, a fair and adequate insurance premium would be difficult to calculate.

7. Conclusions of the 1992 Report

The 1992 report concluded that “utilization of a mechanism to address sinkhole claims similar in function to the Illinois Mine Subsidence Fund has many advantages and is recommended. Such a facility can provide a centralized loss adjustment process. This feature is crucial in situations involving earth movement losses because the adjustment expenses are rather high and determination of the actual cause of loss is difficult. Additionally, it was discovered at the public hearing conducted in Dunedin and in discussions with residents that many policyholders are frustrated by what they perceive as inconsistent carrier adjustment practices. Keeping policyholders informed and involved in the determination of the cause of loss would be beneficial.

The use of such a sinkhole subsidence fund would restore public confidence in the adjustment process and assure the policyholders that they are being treated equally. Centralization would promote a consistent approach and would aid in the development of knowledge in this area. In addition, a sinkhole fund could promote and help support research in the areas of sinkholes, proper remedial measures, and the insurability of other earth movement perils. A resource to maintain sinkhole data and provide service is needed. The Florida Geological Survey could perform this function and also coordinate research with the universities and sinkhole fund. In the interim, the legislative prohibition on cancellation and non-renewals for claims should be continued.

Sinkhole losses represent a small portion of premium dollars. However, data indicate a rapid increase in claim frequency and severity. Utilization of a territorial approach would be one method of addressing the problem. The state would be divided into four territories (the 1969 map remains accurate). However, the territories with a higher potential for loss would

automatically have coverage through the fund for sinkhole losses unless rejected in writing. The premium would vary by territory. The above approach addresses the fundamental problems in a coordinated manner. Piecemeal approaches would appear to be inadequate.”

B. SUMMARY OF THE 2002 REPORT

A closed claims survey was conducted in 2002 to examine sinkhole activity in the state of Florida. This survey was a follow-up to the 1992 study that collected information on sinkhole claims occurring between 1982 and 1991. The 2002 survey was distributed to insurers operating in Florida through the Property Committee of the Florida Insurance Council with the approval of the Florida Department of Insurance. Of the 877 closed claims received, 812 were useable. One problem with the results was the small response rate. While the results are helpful in identifying trends, caution should be exercised in using the results for other purposes.

The electronic survey requested information on all closed sinkhole claims occurring in Florida between 1996 and 2001.⁷ Insurers were asked to provide general information on the location of the claim by zip code, the date the loss was reported, and the date the claim was closed. In addition, specific questions were asked regarding the type of sinkhole and the testing procedures employed. For claims that were paid or compromised, the amount paid was requested for the structure, land, other damage, and allocated loss adjustment expense. For denied claims, the survey asked for the reason for denial.

The data were first examined and compared across years. Then, regional and county level analyses were conducted. The purpose of these analyses was to determine if the number of claims, the disposition of claims, and testing procedures for sinkholes varied by county or region. A summary of the major findings of the study follows.

⁷ A copy of the survey can be found in Appendix B.

1. Statewide Results⁸

Frequency of Sinkhole Claims. The first portion of the report addressed the question of whether sinkhole claims frequency increased during the sample period. Total reported claims rose from 16 in 1996 to 317 in 2001. While the increase was fairly consistent over the entire period, a substantial increase in the number of closed claims occurred in 2000 and 2001.

Approximately nine percent (9%) of the claims were cover collapse sinkholes, while nearly eighty-one percent (81%) were earth movement. Insurers paid more than ninety-five percent (95%) of the claims that were classified sinkholes, including both cover collapse and subsidence claims. The most common reason for the denial of these types of claims was lack of damage to the premises. The remaining claims were reported under the clay shrinkage and other categories. Insurers paid about twenty percent (20%) of the claims classified as clay shrinkage and only six percent (6%) of the claims classified as other occurrences.

Severity of Sinkhole Claims. The second major question the report addressed related to the severity of sinkhole claims. Insurers were asked to report the amounts paid for losses attributable to the structure, land, and other damage. In addition, they were asked about the allocated loss adjustment expenses, deductibles, and total coverage available in each case. There was a fairly steady increase in average payments for damage to the structure observed during the sample period. Most of the payment categories fluctuated during the period. Land was the exception. This category showed the greatest increase in average payments during the sample period, rising from an average of \$2,632 in 1996 to an average of \$12,070 in 2001. This is an increase of more than three hundred fifty percent (350%). While land is not covered under the homeowners' policy, the increase in payments for damage to land was considered a reflection of

⁸ A copy of the supporting exhibits related to the statewide results from the 2002 report can be found in Appendix B.

the use of remediation techniques intended to prevent future damage to the structure. In addition, the average paid claim increased from \$40,218 to \$62,628 during the sample period. This represents an increase in claims cost of approximately fifty-five percent (55%). The change was thought to be partially attributable to the increase in the cost of construction.⁹

Disposition of Claims and Testing Procedures. An examination of the disposition of claims suggested that the behavior of insurers changed during the sample period. Of the 812 claims in the final sample, a majority were denied. Examining the denial rate per year, the results indicated the percentage of claims denied increased steadily during the sample period. The years with the highest denial rates, 2000 and 2001, also were the years in which the most claims were filed.

Insurers cited a variety of reasons for denying these claims, with the most common reason for denial being earth movement not related to the presence of a sinkhole. “Settling, decay, or compression of organic debris” was reported with the greatest frequency as the reason for denial, followed by “soil settlement” and “clay shrinkage.” These reasons accounted for nearly eighty percent (80%) of the denials. “Erosion” was reported as the reason for denial with the least frequency, occurring in less than two percent of claims. Several insurers identified reasons other than those listed as the reason for denial. These include “sewer pipe collapse/damage,” “septic tank collapse/damage,” “no damage to structure,” and “upheaval of structure by trees.”

⁹ The *Statistical Abstract of the United States (2000)* published by the Bureau of Census indicates that, between 1996 and 2000, construction costs increased 10.3 percent (10.3%).

Testing Procedures. Insurers reported the use of a variety of testing procedures. In many cases, an insurer employed more than one method in testing for sinkhole activity. During the sample period, the average number of testing procedures used increased for both paid/compromised and denied claims. However, a means comparison did not indicate that insurers used a significantly higher number of tests to investigate paid/compromised versus denied claims.

The most common testing procedures used with all claims were shallow boring, deep boring, and ground penetrating radar. However, when the individual testing methods were analyzed, it appeared that shallow boring was used more frequently with denied claims, while deep boring was utilized at a higher rate with paid claims. In addition, physical inspections, by engineers or others, and penetrometer probes were used more commonly for claims that were subsequently denied.

The results indicate that insurers' use of certain testing procedures had changed over time. In the early years of the sample, shallow boring was commonly used as a testing procedure for claims that were subsequently denied. For example, one hundred percent (100%) of the denied claims used shallow boring in 1996, compared to thirteen percent (13%) for paid/compromised claims. In the later years, there was an increase in the use of deep boring, ground penetrating radar, and test pits for denied claims. For paid/compromised claims, there was an increase in the use of shallow boring, deep boring, and test pits. The use of ground penetrating radar actually decreased for this group of claims. This result suggested that insurers made a general shift toward the use of more complex testing procedures and that the shift was more evident for paid/compromised claims. For both paid/compromised and denied claims, several insurers listed other testing procedures employed. These included moisture testing, organic testing, electro-resistivity testing, and floor slab surveys. In several cases, it appears the

insurers relied on test results obtained by condominium associations or others in lieu of conducting their own tests.

2. Regional and County Results

Region Level Analyses.¹⁰ Over ninety percent (90%) of the reported claims occurred in the central portions of the state. Approximately fifty-three percent (53%) of these claims occurred in the central west region of the state and thirty-two percent (32%) occurred in the central region. The north central and central east regions had the next highest percentage of claims. The southwest region had the fewest claims, with only eight claims reported. This is approximately one percent (1%) of the total reported claims occurring in the state.

The denial rate varied by region. For example, in the central portion of the state, where most of the claims occurred, the denial rate ranged from fifty-six to eighty-eight percent (56% - 88%). The northern regions had the highest denial rates, with one hundred percent (100%) of the claims being denied in the northwest.

The analysis of testing methods indicated that shallow and deep boring were consistently the most common testing methods used across the regions, especially in the regions reporting the highest number of claims. In these areas, shallow boring was used in approximately seventy to eighty percent (70% - 80%) of the claims while deep boring was used in about seventy-five to eighty-eight percent (75% - 88%) of the claims. Ground penetrating radar was used least frequently in all regions. Insurers reported using this test for about one-third of the claims.

¹⁰ A copy of the supporting exhibits related to the regional results from the 2002 report can be found in Appendix B.

County Level Analysis. Of the sixty-seven counties in Florida, forty reported sinkhole claims during this time period.¹¹ The counties with the largest number of claims were Pasco, Pinellas, Hillsborough, and Marion with 154, 119, 75, and 73 closed claims reported, respectively. These counties account for over sixty percent (60%) of the sinkhole claims reported in the sample and approximately two-thirds of the claims in which insurers paid some amount. Over half of the counties in the state reported less than five claims during the sample period. Of these counties, only three reported any claims which the insurer paid. In addition, nearly half of the counties reporting claims had denial rates of one hundred percent (100%).

In terms of severity, Lee, Seminole, Leon, and Hillsborough had the highest average claims payments, with total claims costs ranging from \$73,807 to \$126,183. It should be noted that Lee and Leon each had fewer than three paid claims in the sample period, and Seminole had fewer than ten claims. Hillsborough is the only county with a high frequency of claims in the group. In five of the twenty-two counties, the greatest expenditure was for land.

3. Summary of Results and Comparison to Prior Closed Claim Report

The results of the 2002 survey indicated that the problem of sinkholes in the state of Florida had increased in terms of both frequency and severity in recent years. The results of this survey showed an increase in the occurrence of sinkhole claims, which was consistent with the results of the 1992 survey. The results of the current survey found that the frequency of sinkholes was concentrated in the central regions of the state. This also was consistent with the results of the 1992 survey, which found a concentration of claims in the central west portion of the state, further supporting that sinkhole losses are generally a regional issue.

¹¹ The following counties reported no claims during the sample period: Baker, Calhoun, Collier, De Soto, Dixie, Flagler, Franklin, Gadsden, Glades, Gulf, Hamilton, Hardee, Hendry, Holmes, Jefferson, Lafayette, Liberty,

An examination of denial rates for this survey showed an increase in the percentage of claims denied. The denial rate in more recent years was higher than that found in the 1992 survey. Findings from both studies indicated that the reasons for denials have been fairly consistent over the years with most denials being associated with earth movement other than sinkholes.

IV. OVERVIEW OF SINGLE-PERIL INSURANCE MECHANISMS

This section provides a review of several state and federal programs designed to cover subsidence and other single-peril exposures. Due to the similarities of the perils of mine subsidence and sinkholes, mine subsidence facilities provide a natural basis from which to develop a potential model for a Florida Sinkhole Insurance Facility. In addition, information on the California Earthquake Authority and the National Flood Insurance Program also is discussed.¹²

A. STATE SUBSIDENCE FUNDS¹³

In several mid-western states with extensive, long-term coal mining activity, new construction in previously undeveloped areas led to buildings being constructed atop abandoned mine shafts and tunnels. In some instances, the land (and the structures above) collapsed into these shafts or tunnels, resulting in significant property damage. Because private insurance companies generally consider earth movement uninsurable, some states developed separate residual market mechanisms to specifically address the problems created by subsidence losses. Six of these are reviewed in this report. Pennsylvania was the first state to develop such a facility in 1961, followed by Illinois in 1979. The rest of the states developed their facilities in the 1980s, specifically, West Virginia in 1982, Kentucky in 1984, Indiana in 1986, and Ohio in 1987. Details related to these plans are discussed below.

¹² A Department of the Treasury rule found in the Federal Register at 68 FR 59715 (October 17, 2003) addresses issues associated with the participation of residual market mechanisms under the Act. The rule provides that the Treasury will release and maintain a list of state residual market mechanisms that are mandatory participants in the Program. A list of these residual market mechanisms can be found in Appendix C. Note, all of these mechanisms are not discussed in this report as some are inactive or had little publicly available information.

¹³ A summary of the key facets of each of these facilities is available in Appendix D.

1. Pennsylvania Coal and Clay Mine Subsidence Fund¹⁴

The Pennsylvania Coal and Clay Mine Subsidence Fund (Pennsylvania Fund) was created in 1961 and is administered by the Mine Subsidence Insurance Board, which is part of the Pennsylvania Department of Environmental Protection. The Board consists of the Secretary of Environmental Resources (who serves as chair), the Commissioner of Insurance, and the State Treasurer.

In contrast to other mine subsidence facilities, Pennsylvania operates its mine subsidence facility as a direct insurer. The facility performs all insurance functions, including establishing and collecting premiums, reviewing applications to ensure that the applicant's property meets the relevant criteria, and investigating and settling claims.

The board has designated territories that are eligible for mine subsidence insurance. The insured must request coverage for mine subsidence, as there is no mandatory offering requirement. Pennsylvania has recently enlisted private insurers to help market its mine subsidence insurance policies and also has contracted with a marketing firm to assist in that effort.

Residential and commercial coverage is available and only covers structures. The maximum residential coverage available was increased to \$250,000 in 2003. The cost of coverage for residential properties is \$12.50 for the first \$5,000 of coverage, and \$4 for each \$5,000 of additional coverage. Non-residential coverage is more than three times as expensive.

Detailed financial and operational data are reported by the fund on a yearly basis. For the 2003 fiscal year, Pennsylvania had 53,487 policies in force, providing over \$5 billion in

¹⁴ Further information on the Pennsylvania Coal and Clay Mine Subsidence Fund can be found in Appendices D, E, F, J, and K.

coverage. The fund had more than \$40 million in surplus. In 2003, the fund paid out more than \$1 million in claims with the average claim payment being nearly \$35,000.

In Pennsylvania, it is common for 150 to 250 claims to be filed each year, of which fourteen to fifty will be paid. Despite this high denial rate, disputes are relatively rare. A policyholder whose claim is denied by the fund may appeal the denial to the Environmental Hearing Board.

2. Illinois Mine Subsidence Fund¹⁵

The Illinois Mine Subsidence Insurance Fund (Illinois Fund) began operation in 1979. The Illinois Fund is an independent entity with an appointed Board of Directors, but is overseen by the Illinois Division of Insurance. The Board of Directors consists of six members with insurance industry experience, four members of the public, and an insurance agent.

Operating with a technical staff of eight and an administrative/financial staff of nine, the Illinois Fund does not write mine subsidence insurance directly. Instead, it acts as a reinsurer for approximately 250 member insurers. Its responsibilities include providing reinsurance to insurers for mine subsidence losses, establishing rates and rating schedules, assisting insurers in the underwriting process by assessing applicant eligibility, and investigating claims.

The Illinois Fund recently implemented a new approach to adjusting mine subsidence claims. In 2002, it began using designated adjusters. These are adjusters with a minimum of two years of experience handling property claims and who have received specialized training in the identification of mine subsidence losses. The purpose of using designated adjusters is to improve the accuracy of identifying mine subsidence losses, reduce claims processing time, and provide the insured with a single contact person to address claim issues.

The claims process begins when the insured reports a claim to the insurance company. The insurer then reports the claim to the Illinois Fund. An independent adjuster is hired by the Illinois Fund to visit the site and rule out cases in which the loss is obviously not mine subsidence. If there is a possibility of mine subsidence, a geologist or engineer from the Illinois Fund inspects the site to determine the cause.¹⁶ If the geologist or engineer determines that the cause of the loss is mine subsidence, he/she instructs the adjuster that the loss should be paid, and the fund reimburses the insurance company for the loss.

If the insured does not agree with the determination of the origin of loss, the insured has the right to arbitration or litigation with the Illinois Fund. If the insured disagrees with the amount of the offer, the insured may arbitrate or litigate with the insurance company. It is important to note that the Illinois Fund's reimbursement follows the language of the insurance company's policy wording. Further, payment does not cover losses related to land.

In the thirty-four Illinois counties that have been identified as the most susceptible to mine subsidence losses, coverage is automatically included in property insurance contracts. The insureds, however, have the option to waive this coverage. In all other Illinois counties, insurers must make mine subsidence coverage available to homeowners upon request. The Fund currently reinsures approximately 350,000 policies.

Illinois provides mine subsidence coverage only for structures and has increased its maximum coverage limit three times since the fund was established, bringing the current limit of coverage to \$350,000 in 2003. Loss settlement (i.e. payment of loss at replacement cost or actual cash value) is based on the coverage of the underlying policy. The cost of the first \$10,000 of residential coverage is \$21, and each additional \$10,000 in coverage costs \$3.09.

¹⁵ Further information on the Illinois Mine Subsidence Fund can be found in Appendices D, E, F, J, and K.

¹⁶ Of the 500 claims filed annually, approximately 300 are inspected by a geologist or engineer.

In 2000 and 2001, the Illinois Mine Subsidence Fund incurred more than \$17 million in residential claims and took in more than \$12 million in earned premiums each year. Due to favorable investment experience during the period and changes in accounting methods, the surplus grew twenty percent (20%) in 2001. In 2002, the Illinois Fund recorded its eighth consecutive year of positive net income and saw its combined surplus rise to a record high of \$23 million.

The Illinois Fund publishes two brochures, entitled “What You Should Know About Mine Subsidence When Buying A Home” and “Insurance For Your Property Against Loss From Mine Subsidence.” It also publishes a sheet of frequently asked questions, entitled, “Do I Need Mine Subsidence Insurance?”

The Illinois Fund maintains a website that provides a wealth of information to consumers, including basic information on mine subsidence and the damage mine subsidence can cause to property. Mine maps for affected counties also are provided, along with a section that provides answers to frequently asked questions. Several years of annual reports also are available.

Illinois also provides information about abandoned mines through the clerks’ offices of the various counties. This information is available from the fund’s website. In addition, the Illinois Department of Natural Resources, Office of Mines and Minerals, has information available to consumers.

3. West Virginia Mine Subsidence Fund¹⁷

In 1982, the West Virginia legislature authorized and directed the Board of Risk and Insurance Management, which manages the state’s property and liability self-insurance program, to establish and administer a coal mine subsidence reinsurance facility. The Board is composed

of five members appointed by the governor. The Board establishes premium rates that reflect the experience of the program, making changes if necessary. Claims investigation is handled by the Board, which approves all payments.

The Board has mandated mine subsidence coverage in certain counties, but property insureds can waive the coverage. As in Illinois, residents of counties exempt from the mandate are able to purchase mine subsidence insurance through an insurer, but they must request the coverage because it is not automatically offered.

Mine subsidence coverage is available on a replacement cost basis for structures. West Virginia's limit of \$75,000 was increased from \$50,000 in 1985, and an additional increase is currently being considered. The residential premium is \$10 for the first \$10,000 of insurance. Thereafter, each additional \$5,000 of coverage costs another \$1. Coverage for buildings that are not dwellings is exactly twice as expensive.

Very little information is publicly available on the financial status of the West Virginia Fund. The only information available in the Board of Risk and Insurance Management's annual report related to the subsidence program is the percentage of subsidence losses relative to other types of losses and the percentage of operating revenue the subsidence fund generates. From 1987 to 2002, mine subsidence losses were three percent (3%) of total losses. As of the end of the 2002 fiscal year, the revenue generated from the subsidence program represented less than five percent (5%) of the total operating revenues of the Board.

¹⁷ Further information on the West Virginia Mine Subsidence Fund can be found in Appendices D, E, F, J, and K.

4. Kentucky Mine Subsidence Fund¹⁸

Kentucky's Mine Subsidence Insurance Fund (Kentucky Fund) was established on July 13, 1984, and is housed in the Division of State Risk and Insurance Services at the Department of Insurance. The Kentucky Fund functions as a reinsurance facility. The Division is authorized to designate a manager to handle the daily operations of the Kentucky Fund, which currently has more than 30,000 policyholders.

The initial claims investigation is handled by the insurer. If the insurer questions the cause of the loss, the administrator of the Kentucky Fund will contact a consulting adjuster to issue an opinion. If this consulting adjuster is unable to certify the cause of the reported loss, the manager may retain a geological firm to verify:

1. that mining did in fact take place in the immediate area.
2. the date of mining activity (Claims from mining prior to August 3, 1977 are paid from the fund, but claims from mining after August 3, 1977 are expected to be paid by the responsible mining company. The responsible mining company is also expected to pay for claim investigation services); and
3. that the cause of the loss is mine subsidence and not other causes of earth movement such as settling, landslide, or earthquake.

The geological firm then reports to the manager, and copies of all correspondence are sent to the insurer. The claims payment is made to the insured by the insurance company, and then the insurer is reimbursed by the Kentucky Fund. The loss adjustment costs are paid by the Kentucky Fund. Both the insurer and the Kentucky Fund retain the right of subrogation, so that if a mining company is later found to be responsible, they may have recourse against the mining company.

If the insurer disagrees with the administrator's determination of the Kentucky Fund's obligation to pay any reinsured claim, the insurer is entitled to a hearing before the Commissioner (or a representative), who must then make findings of fact, conclusions of law,

and enter an order. If the insurer disagrees with the order, the insurer may appeal to the Franklin Circuit Court.

Eligibility is determined by county. The fiscal courts of individual counties must approve of the availability of mine subsidence insurance within that county. Of the fifty-five eligible counties where coal-bearing stratum is known to exist, thirty-four counties have chosen to participate in the mine subsidence insurance program. Residents of these thirty-four counties can waive coverage, but residents of other counties are not allowed to participate in Kentucky's mine subsidence insurance program.

Mine subsidence coverage is available on an actual cash value basis for the structure only. In 1998, Kentucky increased its maximum coverage to \$100,000 from \$50,000, the only increase in its limit since the inception of the program. The first \$15,000 of residential coverage costs \$10, and each additional \$5,000 of coverage costs \$1. Non-residential coverage is slightly more expensive.

Kentucky publishes a booklet entitled "Insuring Your Property Against Underground Mine Collapse." Kentucky's website also describes the history of the mine subsidence program, discusses the different types of mine subsidence, lists the counties where coverage is available, and explains the nature and extent of the coverage offered.

5. Indiana Mine Subsidence Fund¹⁹

The Indiana Mine Subsidence Insurance Fund (Indiana Fund) and the Indiana Mine Subsidence Insurance Program were created in 1986, and responsibility for their administration rests with the Consumer Services Division of the Indiana Department of Insurance. A Deputy

¹⁸ Further information on the Kentucky Mine Subsidence Fund can be found in Appendices D, E, F, G, and J.

Commissioner, reporting to the Commissioner of Insurance, has primary responsibility for the operation of the Indiana Fund, which operates as a reinsurance facility. The Commissioner establishes mine subsidence insurance rates and is responsible for annually evaluating experience data to determine if a rate adjustment is necessary.

The initial claim investigation is done by the insurer; however, the Indiana Fund becomes involved in the claims investigation as soon as the insurer determines that mine subsidence is a potential cause of loss. The commissioner has the authority to use either the Indiana Fund's staff or contract with outside service providers to assist in the loss adjustment process. Covered mine subsidence claims are paid by the insurer and then reimbursed by the Indiana Fund upon verification of the loss.

The State Department of Natural Resources has the responsibility of maintaining a list of counties that are at least partially within the Illinois Coal Basin or underlain by coal-bearing rock formations of the Pennsylvanian system. Mine subsidence coverage is available in twenty-six counties currently designated by the State Department of Natural Resources.

Coverage for subsidence losses is available on an actual cash value basis for the structure only. Indiana has increased its limit several times, and its most recent increase, in 2001, raised the maximum amount of coverage available to \$200,000. Indiana's mine subsidence premiums are similar to those of Illinois. The cost is just under \$0.70 per \$1,000 of coverage at the highest limit of coverage.

The *Indiana Handbook of Taxes, Revenues, and Appropriations* contains a summary of the financial status of the Mine Subsidence Insurance Fund, including premium information, earnings, and total revenue for the previous five years. Earnings more than doubled between

¹⁹ Further information related to the Indiana Mine Subsidence Insurance Fund can be found in Appendices D, E, F, J, and K.

1998 and 2002, with total revenue reaching \$945,858 in 2002. In addition, there has been an increase in premiums over the same period.

The Indiana Fund is required by statute to provide a report every three years that summarizes the number of claims filed, the amount paid for each claim, and the amount remaining in the mine subsidence insurance fund. In addition, the Indiana Fund may share information from its internally-generated database on a case-by-case basis, and it eventually plans to make some information public.

6. Ohio Mine Subsidence Insurance Fund²⁰

The Mine Subsidence Insurance Fund (Ohio Fund), the Ohio Mine Subsidence Insurance Underwriting Association (OMSIUA), and the Mine Subsidence Governing Board were established in the mid-1980s. The Ohio Fund was originally financed by state and federal appropriations, which have since been repaid. The Ohio Fund is currently funded by premiums for reinsurance assumed by the OMSIUA, which consists of every insurer selling basic property or multi-peril insurance for one-to four-family dwellings in the eligible counties.

The Governing Board, which administers the Ohio Fund, consists of the Director of Natural Resources (or his/her designee) as chair, the Superintendent of Insurance (or his/her designee), the state treasurer (or his/her designee), and an insurance industry representative from an Ohio-domiciled member carrier. The state treasurer is the custodian of the Ohio Fund. The Governing Board establishes mine subsidence insurance rates, with the approval of the Superintendent of Insurance, to cover all foreseeable claims, normal operating expenses, and a reserve for contingencies. The Governing Board has contracted with the Ohio Federal Access to

²⁰ Further information on the Ohio Mine Subsidence Insurance Fund can be found in Appendices D, E, F, G, J, and K.

Insurance Requirements Plan Underwriting Association (FAIR Plan) for administrative and claims services and has developed a Plan of Operation and the necessary forms to implement the mine subsidence insurance program.

The FAIR Plan investigates all reported and potentially covered mine subsidence claims, although insurers are required to verify coverage before reporting a claim. If qualified engineers are needed to perform technical investigations, the Ohio Fund will pay the cost of the investigation. Claims can be electronically submitted to the FAIR Plan through its website.

Among the six states discussed, Ohio is the only one to *require* coverage to be purchased in certain areas of the state. Legislation passed in 1992 established mandatory and optional counties regarding mine subsidence insurance coverage. Policyholders in the twenty-six mandatory counties are required to obtain mine subsidence insurance coverage when purchasing or renewing their homeowners' insurance. They are not allowed to waive the coverage in their counties. Insurers are required to offer mine subsidence coverage in the eleven optional counties, but applicants and policyholders may refuse to purchase the coverage. The Ohio Fund currently reinsures more than 600,000 policies.

Mine subsidence coverage is limited to damage to the dwelling, and losses are settled on an actual cash value basis. Ohio's coverage limit of \$50,000 has not been changed since the inception of the program in the 1980s; however, the Ohio Fund is currently considering an increase. Ohio has a flat premium schedule with the cost of residential coverage being \$1 in counties where coverage is mandatory and \$5 in counties where coverage is optional. Commercial or non-dwelling coverage is not available in Ohio.

In 2000 and 2001, the Ohio Fund received more than 200 new claims and paid more than \$1.3 million in existing claims. According to the OMSIUA's annual report, the balance in the

Ohio Fund has remained in excess of \$11 million since 2000, with total income reaching nearly \$911,000 in 2003. Disbursements from the Ohio Fund in 2002 were approximately \$820,000, compared to approximately \$689,000 in 2000.

The Ohio Fund provides a substantial amount of consumer information on its website, including the history of the program and detailed instructions on how to file a claim. The website also contains all the forms used in providing coverage both for consumers and for insurers, detailed statistics on the number of mines in each county, a frequently asked questions section, and several years of annual reports which contain claims experience by county. In addition, the Ohio Fund occasionally provides speakers for individuals, groups, and government agencies to provide information about the mine subsidence program.

The OMSIUA provides policy and claims information by county in its annual report, including data on the number of reported claims, the number of closed claims, the number of policies in force, and premium volume. In addition, the annual report presents data on the amount of reserves, as well as total claims payments and loss adjustment expenses.

B. OTHER STATE AND FEDERAL PROGRAMS

1. California Earthquake Authority²¹

The California Earthquake Authority was established as a result of a chain of events following the 1994 Northridge earthquake, which resulted in over \$12 billion in insured losses. Because earth movement is typically excluded in the standard homeowners' policy, California passed a law in 1985 requiring insurers that sold fire insurance to also offer coverage for the peril of earthquake. After experiencing the devastation of the Northridge earthquake, many insurers chose not to write new homeowners' policies in California. In late 1995, the state legislature designed a catastrophic residential earthquake policy, effectively reducing the level of coverage for the specific peril of earthquake. This strategy was helpful but did not resolve the earthquake insurance availability problems. In response, the CEA was formed the following year.

The CEA's structure is unique in that it has both a governing board and an advisory panel. The board is comprised of the Governor, the Treasurer, the Insurance Commissioner, the Speaker of the Assembly, and the Chair of the Senate Rules Committee. The advisory panel consists of twelve members appointed by the Governor, the Insurance Commissioner, the Speaker of the Assembly, and the Chair of the Senate Rules Committee. Two of the appointees must represent insurance carriers and one must be a licensed insurance agent.

The CEA offers earthquake insurance to all residents of California by operating through a network of participating insurers who issue policies, adjust claims, and apply to the CEA for reimbursement. The CEA encourages claims to be made to the insurance company through which the policy was purchased; however, claims can be reported directly to the CEA. In this case, the CEA refers the claim to the appropriate insurance company.

²¹ Further information on the California Earthquake Authority can be found in Appendices D, E, F, G, J, and K.

Rates are based on location relative to known fault lines (approximated by zip codes), the age of the building, and its construction type. The CEA estimates the average rate for earthquake insurance to be \$2.79 per \$1,000 of coverage.

Coverage is available throughout the state, but sixty-six percent (66%) of the policies are sold in southern California (Los Angeles, Orange, Riverside, San Bernadino, and San Diego counties). The structure and contents are covered on a replacement cost basis. Uniquely among the facilities examined, the CEA imposes no upper limit on coverage other than the limit of Coverage A (Dwelling) of the insured's homeowners' policy. Contents coverage was initially capped at \$5,000, but a recent change allowed policyholders to purchase contents coverage up to \$100,000 for an additional premium. The CEA program features very large deductibles. In the event of a loss, the insured's deductible is ten percent (10%) or fifteen percent (15%) of the Coverage A amount. There is no coverage for Coverage B (other structures) or for sidewalks, landscaping, or pools.

The CEA is the world's largest residential earthquake insurer when measured by total policies written and total premiums, and has been given an A- rating by A.M. Best, which represents a grade of "Excellent". The CEA has just under \$2 billion of surplus. In 2003, the CEA received just over \$400 million in premiums, and it currently has approximately 750,000 policies in force.

The CEA has a complex capital structure of about \$7 billion in claims-paying ability, including private reinsurance and debt and assessment authority. Claims-paying ability should increase over time as additional premiums are collected and surplus is built up. In the meantime, if an earthquake causes damage in excess of the CEA's ability to pay, policyholders will receive a prorated portion of their covered losses, based on expected losses and available funds.

The CEA website provides a great deal of information as well as several publications for consumers and insurers. The website has extensive information on the history of the facility, coverage details, the determination of rates, and a premium calculator that consumers can use to estimate premiums under different scenarios. For example, consumers can see the difference in premium that results from changing deductible levels. Additionally, the website has a separate section available for agents of member companies.

2. National Flood Insurance Program²²

The National Flood Insurance Program was established in 1968. Before then, the response to flood disasters was generally limited to construction of dams, levees, and seawalls. These remediation techniques did not discourage unwise development and, in some cases, may have even encouraged additional development in flood-prone areas. The U.S. Congress created the NFIP in the hopes of reducing future flood damage by encouraging communities to develop floodplain management ordinances. In exchange, communities would be able to help their residents obtain some protection from flood disasters through an insurance program. The NFIP is housed in the Mitigation Division of the Federal Emergency Management Administration, which is itself housed in the Department of Homeland Security.

Claims of the National Flood Insurance Program are handled in a coordinated, strategic fashion. Typically, after a major flood, a Flood Response Office is established in the region to assist in adjustment of flood losses. Adjusters can use the resources of the office to expedite claims processing.

Coverage is provided on the structure on a replacement cost basis, while contents are covered on an actual cash value basis. The maximum coverage limit on a residential structure is

the lower of \$250,000 or the Coverage A limit in the insured's homeowners' insurance policy. The standard deductibles on the structure are \$500 and \$1,000, but the deductible may be increased to \$5,000. The deductibles on contents are similar except that the contents deductible can be increased to \$25,000.

Flood insurance rates vary with the location and age of the property, the amount of coverage, and whether a basement is present. The NFIP has created maps showing the likelihood of floods for a particular region. Each area in the region is classified into one of 12 flood zone categories, which are the primary determinant of flood insurance rates.

In 2003, the NFIP collected just under \$1.9 billion in premiums on \$690 billion in coverage written on approximately 4.5 million policies. In recent years, loss payouts have typically been less than one half of the total premiums collected, allowing the program to build a substantial surplus, which reached \$700 million in 2001.

The NFIP has a comprehensive website with a wealth of information for consumers, claims adjusters, insurance professionals, lenders, surveyors, and state and local officials. The site includes detailed mapping data, answers to frequently asked questions, and a large quantity of data at both the state and county levels. These data include the number of open and closed claims, total payments made during each year beginning in 1978, and the number of policies in force. More than forty official publications also are available online.

3. Other Government Programs and Funding Sources²³

The Surface Mining Control and Reclamation Act of 1977 created the National Association of Abandoned Mine Land Programs (NAAML), which currently has thirty member

²² Further information about the National Flood Insurance Program can be found in Appendices D, E, F, and K.

²³ Information on the National Association of Abandoned Mine Land Programs can be found in Appendix H.

states and tribes. The member states receive government appropriations from the Office of Surface Mining Reclamation and Enforcement (OSMRE) to fund state-run programs. Appropriations are obtained from the mining industry. For example, more than \$1 billion has been collected from the Wyoming coal industry since the inception of the NAAML. Wyoming has spent the majority of the \$333 million appropriated by the OSMRE on reclaiming mines, with a portion spent assisting public facilities affected by mine subsidence.

In addition to providing funds for mine reclamation, the NAAML serves several other purposes, one of which is the sharing of information. As declared in its mission statement, the NAAML provides a “forum to address current issues, discuss common problems, and share new technologies regarding the reclamation of abandoned mine lands.” Besides this service, the NAAML also works with other organizations, including the Interstate Mining Compact Commission, on the effective use of natural resources and other common issues.

Pennsylvania, Kentucky, and Indiana all have had success with mine reclamation projects. These projects can be costly and time consuming and are not always funded entirely by the NAAML. For example, one Kentucky project cost close to \$900,000 and took approximately ten months to complete. The Appalachian Clean Stream Initiative provided more than sixty percent (60%) of the cost of the project.

Pennsylvania established an initiative called Reclaim PA through the Bureau of Abandoned Mine Reclamation. The initiative is projected to cost the state approximately \$15 million. In Indiana, the Division of Reclamation falls under the Department of Natural Resources. Coal operators pay a \$.03 per ton reclamation fee on mined surface coal to provide 12.5 percent (12.5%) of the division’s budget. Revenue from the general fund and federal grants are the other main sources of the division’s budget.

In Texas, subsidence due to the depletion of groundwater is being mitigated through a type of loss control implemented by the Texas Legislature. In 1975, Article XVI, Section 59, of the Texas Constitution created the Harris-Galveston Coastal Subsidence District by what is commonly known as the “Conservation Amendment.” The District reviews permits for groundwater use with respect to the relative effect of a particular pumping on subsidence and other factors. As a result of the District’s efforts, groundwater depletion has slowed and the level of subsidence has been reduced.

V. ISSUES RELATED TO THE CREATION OF A FLORIDA SINKHOLE INSURANCE FACILITY

A. ASSESSMENT OF THE CURRENT FLORIDA RESIDENTIAL PROPERTY INSURANCE MARKET

Both the existence of a residual market mechanism to provide insurance coverage for persons who are entitled to have coverage but are unable to obtain it from private insurers and surges in the number of policyholders in the residual market may be indicators of problems and stresses in the market. Citizens and its two predecessor entities were created because of Florida's significant exposure to hurricanes. The takeout incentive programs to encourage the movement of policies from Citizens back to private insurers and the sizeable pre-event financing activities undertaken by Citizens, both of which were authorized by the Florida Legislature, were aimed at strengthening the ability of the residential property insurance market in Florida to withstand large hurricane losses.

At the end of 2001, Citizens' market share in its personal lines account was about two percent (2%) on a statewide basis, and about ninety-eight percent (98%) of its policies were located in Miami-Dade, Broward, and Palm Beach counties, which have high hurricane exposures. Only 1,012 policies were in the Tampa Bay region of Hillsborough, Pinellas, Pasco, and Hernando counties, which have high sinkhole exposures. By November of 2004, the number of policies in these four counties had increased to 146,901, which was an increase from one percent (1%) to thirty-three and one-half percent (33.5%) of the number of Citizens personal lines account policies in less than three years. During the same time, the number of policies in Miami-Dade, Broward, and Palm Beach counties more than doubled.²⁴

²⁴ Due to the fact that Florida law places some restrictions on insurers' ability to terminate policies mid-policy period, it is likely that very little, if any, of the increases in the number of Citizens policies resulted from terminations and non-renewals due to losses sustained during the 2004 hurricane season.

Insurance market trends and developments in Florida, as in other states, usually arise from a combination of factors. However, a significant movement, like the disproportionate growth of Citizens policies in the four-county Tampa Bay region, often has a predominant cause. The growth of sinkhole claims in this region and the high cost associated with investigating and paying these claims may have contributed to the withdrawal of insurer capacity and an increase in the number of policyholders forced to obtain residential property insurance from Citizens. While the evidence is circumstantial and anecdotal, it appears that Citizens may have become the sinkhole insurer of last resort in the four-county Tampa Bay region.

B. STRUCTURE OF THE FACILITY

The history of state responses to insurance market problems related to automobile insurance, workers' compensation insurance, property and windstorm insurance, earthquake insurance, flood insurance, and mine subsidence insurance provides examples of different approaches to the structure of residual market mechanisms. By drawing upon this experience, the Florida Legislature should be able to resolve the key placement, governance, and financial issues inherent in the creation of an effective sinkhole facility in Florida, if it believes action is necessary.

1. Facility Placement

Traditionally, most residual market mechanisms are established as free-standing insurance operations organizationally separate from the state government that created them. This approach is independent of the amount of control the state has over the residual market mechanism, and it seems to be related to the views that the day-to-day operations of a residual market mechanism is not an appropriate governmental function and that the entity would operate more efficiently if it were not encumbered with state procedural requirements. The residual market mechanisms in Florida for auto insurance, residential property insurance, workers' compensation insurance, and medical malpractice insurance were all established as free-standing insurance operations.

Some of the mine subsidence funds and the Florida Hurricane Catastrophe Fund (Cat Fund) were established within state agencies, although they typically outsource certain functions. This may be because these entities are reinsurance programs, having limited operational

activities. In addition, contact with individual policyholders is generally limited to claims activity.

Another approach would be to establish a sinkhole facility as a component of an existing entity such as the Cat Fund or Citizens. The advantage of this approach is that the Cat Fund and Citizens have existing resources that would not have to be replicated in a new entity. The principal disadvantage is that the Cat Fund and Citizens each have complex responsibilities and significant challenges, and adding a new responsibility with a different nature, scope, and focus could have a detrimental effect on their primary missions.

The sinkhole facility could be established as a component of another residual market mechanism in Florida or another existing state entity to achieve some operational efficiencies, depending on the emphasis placed on tax-exempt status. This would have to be analyzed carefully, however, to weigh the benefits of possible cost efficiency with the possibility that combining unrelated entities would have undesirable effects. Additionally, the issue of what services may be outsourced should be addressed.

2. Facility Governance

The governing boards of many residual market mechanisms have traditionally been made up entirely or primarily of insurance company representatives. One reason for this is that insurance industry representatives have the knowledge and experience necessary to provide oversight and guidance to residual market mechanisms, which in some cases are the equivalent of sizeable insurance companies. Another consideration is that for most residual market mechanisms, private insurance companies are subject to assessment if the entity has a financial shortfall. As a result, insurance companies want to be in a position to have oversight of and

involvement in the entity's operations and finances. The recent trend is for governing boards of residual market mechanisms to have a number of non-insurance members to provide a broader, and in some cases consumer-oriented, perspective.

Most of the mine subsidence funds are under the control of either: (1) the insurance commissioner or another state official; (2) entities such as the state board of risk and insurance management or the state risk and insurance division in the insurance department; or (3) boards made up of state officials such as the secretary of environmental resources, the director of natural resources, the insurance commissioner, and the state treasurer. In Florida, the Cat Fund is part of the State Board of Administration, which is overseen by Florida's Governor, Chief Financial Officer, and Attorney General. As reinsurance mechanisms, these entities do not have the complex insurance operations typically found in many residual market mechanisms, but they have issues where the perspective and expertise of government officials is relevant.

As discussed in Section V of this report, the governance issue is critical to whether a sinkhole facility in Florida will be able to achieve exemption from federal income taxation as an integral part of the state. The Internal Revenue Service will look carefully at the nature and degree of control that the state has over the sinkhole facility. If the Florida Legislature wants the sinkhole facility to be exempt from federal taxation, then it should: (1) place the facility in a state agency where a state official or board would have direct control; or (2) create the facility as a free-standing entity with the authority to appoint and remove board members placed clearly in the hands of one or more state officials. The first approach was used with the Cat Fund, while the second was used with Citizens.

3. Facility Financing

The Florida Residential Property and Casualty Joint Underwriting Association (FRPCJUA) and the Florida Windstorm Underwriting Association (FWUA) issued over \$1 billion in pre-event bonds in 1995, which may have been the first time that a residual market mechanism had gone to the capital markets for part of their funding. These actions illustrates one of the fundamental issues facing residual market mechanisms: (1) the source of initial funding; and (2) how to assure that the mechanism has the long-term financial ability to meet claim obligations during periods of financial stress.

Relating to the first issue, the initial source of funds needed to finance the start-up costs of a sinkhole facility is an important consideration. Several of the mine subsidence programs were supported by state appropriations until the funds could be self-sufficient. As such, the Florida Legislature must decide if it is willing to make a financial contribution if a sinkhole facility is created. In making this decision, the Legislature must consider whether a sinkhole facility in Florida will be able to achieve exemption from federal income taxation as an integral part of the state. In conducting its analysis, the IRS reviews the nature and size of the state's financial contribution to the entity. As discussed later in this section, the IRS has accepted state financial contributions in a variety of forms.

Related to the second issue, even with the best of intentions, a sinkhole facility may still incur a financial shortfall. The Legislature will need to consider how the sinkhole facility will respond in this event and how it will obtain the cash necessary to meet its obligations. Historically, state governments have not assumed financial responsibility for shortfalls experienced by residual market mechanisms.

The traditional approach in Florida, and elsewhere, has been to apportion financial shortfalls (deficits) among relevant groups of insurance companies based on market share. This approach can work well for residual market mechanisms in lines of business without catastrophic exposure or in situations where residual market rates are not intentionally suppressed below needed levels. In these cases, revenues from policyholders usually closely match claims and expenses, and at worst, the financial shortfalls and the resulting insurer assessments are modest.

Another approach that has been used in some of the mine subsidence funds is to not require payment of claims by an insurance company if sufficient cash is not available to reimburse the insurer for losses ceded to the fund. This seems to encourage those involved in overseeing the funds to assure that rates are set at needed levels and that claims are adjusted with care and professionalism. The Cat Fund uses a variation of this approach in that the Cat Fund is not obligated to make reimbursement payments to insurance companies beyond its cash on hand plus the amount it can borrow in the debt markets. Also, some states have loaned money to the fund to cover a financial shortfall with the loan being repaid from future revenues.

One benefit of state financial support is that any type of initial or continuing state financial contribution reduces the possibility that a sinkhole facility will ever incur a financial shortfall. A sinkhole facility is unlikely to experience catastrophic losses, and as long as sinkhole insurance rates are set conservatively, a sinkhole facility is not likely to incur a financial shortfall from normal operations. An initial financial contribution from the state that addresses the IRS tax-exempt issues will also reduce the possibility that the sinkhole facility will not have the funds to pay early sinkhole claims if they arise before the entity can develop a meaningful capital base from premium income.

C. OPERATION OF THE FACILITY

1. Method of Operation

State-created facilities can be organized using one of two basic methods: (1) by operating as a direct insurer, or (2) as a reinsurance facility. Generally, in the case of a facility operating as a reinsurer, the facility reimburses insurers for covered losses they have paid stemming from the insured peril. In the case of a facility operating as a primary insurer, the facility takes on the role of writing coverage directly for insureds without using the resources of primary insurers. In each case, the scope of responsibilities and the services provided by the facility can vary.

Clearly, a state-created insurance facility operating as a direct insurer is responsible for a complex set of administrative, financial, and insurance processes. The facility must either obtain the necessary personnel and physical resources itself to perform these tasks or obtain some or most of these resources from one or more outside service vendors. A careful analysis of the nature and size of the tasks to be performed is necessary to make the judgments involved. In the case of a sinkhole facility, however, where the coverage is ancillary to the underlying property insurance coverage, one option is to operate as a reinsurer and take advantage of the relationships between the insurer, the agent, and the policyholder to provide coverage and collect premiums. This approach, used by five of the six mine subsidence funds discussed in this report, would minimize the number of sinkhole facility staff and allow the facility to focus on finances, rate levels, and claims oversight functions.

2. Geographical Considerations

An important set of issues, which each of the states with mine subsidence funds had to address, is whether to make coverage available in all or part of the state and whether to make the

coverage mandatory or optional. While these states took generally similar approaches, there are key differences that are relevant to Florida's sinkhole situation.

A review of a map of Florida sinkhole activity shows some level of activity in many parts of the state with concentrations of activity in certain regions.²⁵ One approach would be to make sinkhole coverage mandatory in all counties. In this case, appropriate territorial rates that recognize the variation in risk from one territory to another would be developed. A major advantage of making coverage mandatory is that rate levels would be relatively lower because every residential property policyholder in the state would be covered and there would be no adverse selection against the facility.

A variation of this approach, which would be appropriate if there are a sufficient number of counties in Florida with negligible sinkhole activity, would be to make the sinkhole facility's coverage mandatory in those counties with meaningful sinkhole activity and optional in the remaining counties. Florida has experience, however, in other lines of insurance showing that problems can arise when insurers are required to make a particular coverage available to applicants or policyholders on an optional basis. Homeowners may not understand their options or they may later allege they did not understand their options, and they may attempt to get payment for a loss after it occurs. Having applicants or policyholders sign a form acknowledging their refusal of coverage has been used in the past to address this concern. Another consideration is that making sinkhole coverage mandatory in some counties and optional in others adds complexity and costs for insurers and insurance agents.

A third variation would be to have a sinkhole facility provide mandatory coverage in those counties with meaningful sinkhole activity, while insurers would be required to provide sinkhole coverage themselves in all other counties. This would provide some benefit to the

residential property insurance market in those counties where sinkhole losses have caused insurers to reduce their exposure without having any impact on applicants and policyholders in other counties.

A basic issue inherent in the discussion above is whether private insurers will be allowed or required to provide sinkhole coverage if a sinkhole facility is created and becomes operational. There are compelling arguments on each side of this issue, and the public policy choice the legislature has to make will have much to do with the success of the sinkhole facility, the ability of policyholders to obtain compensation for their legitimate sinkhole claims, and the willingness of insurers to make residential property insurance available broadly in Florida.

²⁵ Maps illustrating sinkhole activity in Florida can be found in Appendix M.

D. COVERAGE OPTIONS, RATES, AND ECONOMIC IMPLICATIONS

For a study to adequately examine the economic feasibility of operating a facility that insures sinkhole losses, it is vital that the data are sufficient and accurately reflect the Florida marketplace as it relates to sinkhole losses. For the purposes of this study, a data set has been compiled that provides aggregated Florida residential loss cost data. The data set includes a substantial portion of the residential loss exposure units in the marketplace.²⁶

This report uses homeowners' insurance policy and loss data for the period 1997 through 2003. The data come from a group of insurers that represent over forty-five percent (45%) of the residential homeowners' market in Florida. The data were separated by frame or masonry construction type, and the data set includes the following:²⁷

1. Policy count;
2. Coverage A exposures;
3. Annual premium;
4. Total number of claims paid by coverage type (A, B, C, D);
5. Number of "sinkhole" claims paid by coverage type (A, B, C, D);
6. Total dollars of claims paid by coverage type (A, B, C, D); and
7. Dollars of "sinkhole" claims paid by coverage type (A, B, C, D).

To ultimately address the questions of feasibility and adequacy, the various coverage options available are first presented. Next, the report: (1) evaluates sinkhole loss costs trends; (2) develops expected loss costs related to sinkhole losses; (3) evaluates the funding options and costs of operating a facility to insure sinkhole losses; and (4) provides an estimate of premiums that would be charged by a facility insuring sinkhole losses.

²⁶ A copy of the complete actuarial report and related exhibits can be found in Appendix M.

²⁷ Due to the limited number of frame observations, the primary analysis is based on masonry construction. For completeness, some sections do contain frame analysis. However, the frame data is converted to masonry data. The process used for conversion is described in the report contained in Appendix M.

1. Coverage Options

Important to the rate-making process is the decision of how the sinkhole coverage will be structured. Specifically, decisions regarding the following areas have to be made:

1. What types of losses will be covered? Will sinkhole losses be covered like all other losses within the homeowners' policy? Will this include coverage for damage to structures only (Coverages A or Coverages A and B) or all Section I Coverages?
2. Will the limit of coverage be consistent with the limit provided within the homeowners' policy or will a separate maximum limit be established?
3. Will specific types of property, such as sidewalks, driveways, fences, pools, septic tanks, and landscaping be covered?
4. Will the policy pay for structural losses at replacement cost or actual cash value?
5. How will the insurability of property be affected if repairs to the structure are not made?

The broader the coverage provided and the more property items covered, the more expensive the coverage may become. One solution would be that since damage to personal property generally results from cover collapse losses and these losses are more likely to generate loss of use claims, then cover collapse claims should provide coverage for all Section I losses. Cover subsidence sinkhole losses would only cover damage to the structures, that is, Coverage A (Dwelling) and Coverage B (Other Structures) losses only. Thus, it will be important that cover collapse sinkholes and subsidence sinkholes are explicitly defined within the policy.

Attention must be paid to the conditions under which claims will be paid. In addition to the actual cash value and replacement cost question above, the question of whether claims will be paid in the event that the repairs are not made is important. Further, whether a home that has sustained a sinkhole loss is renewable also is important. Currently, Citizens is not required to insure homes for which there has been a total loss. In addition, in cases of a partial loss, the home may become uninsurable if the repairs are not made in compliance with engineers' recommendations. The homeowner may still obtain coverage in the event an engineer can

certify the repairs have been completed and the home has been stabilized. Alternatively, a major insurer has filed a form that would provide limited coverage for cosmetic repairs but not pay for substantial repairs until after they are made. Currently, a case is on appeal in which the insurer argues that the structure is covered, but the land beneath is not. Thus the insurer is not liable for land repairs to support the structure. The issue of the insurer's responsibility under the policy's reasonable repairs provision needs to be considered and it would appear the insurer's liability would depend on specific policy language.

2. Results and Analysis

With an average yearly policy count for the period 1999 through 2003 of 1,564,646 (1,276,339 masonry policies and 288,307 frame policies), the data set collected contains a substantial number of observations. However, there are some concerns using this data to calculate sinkhole loss costs due to several factors including: (1) variations in the definition of a sinkhole across insurers; and (2) some inconsistencies between reported sinkhole activity from geological sources and claims reported to insurers. As such, although data from 1997 and 1998 are included in the data set, these years are not included in the loss cost analysis.

Since homes classified as masonry construction comprise over eighty percent (80%) of the observations, the following information is based on the frequency and severity data for the masonry construction category (see Exhibit 4 in Appendix M for frame construction data). The aggregate average Coverage A amount for these policies is nearly \$163 billion. During this period, the total claims and sinkhole claims paid on a statewide basis were as follows:

	<u>Total Number of Claims</u>	<u>Total Number of Sinkhole Claims</u>	<u>Percent</u>
Coverage A (Dwelling)	246,240	2,509	1.02%
Coverage B (Other Structures)	5,575	195	3.50%
Coverage C (Contents)	84,658	55	0.06%
Coverage D (Loss of Use)	10,101	106	1.05%

Based on the number of claims, statewide sinkhole losses for Coverage A represent slightly more than one percent (1%) of the total number of claims paid under Coverage A. For severity of loss, the situation is much different as sinkhole losses represent a much larger percentage of statewide paid losses. Severity of loss for the period 1999 through 2003 is as follows:

	<u>Total Claims in Dollars</u>	<u>Sinkhole Claims in Dollars</u>	<u>Percent</u>
Coverage A (Dwelling)	\$1,353,361,066	\$219,161,910	16.19%
Coverage B (Other Structures)	\$8,884,467	\$907,051	10.21%
Coverage C (Contents)	\$279,262,216	\$260,204	0.09%
Coverage D (Loss of Use)	\$47,651,351	\$491,218	1.03%

For Coverage A, sinkhole losses represent over sixteen percent (16%) of the total amount of Coverage A losses paid statewide and over ten percent (10%) of the amount of Coverage B losses paid. This shows that the severity of the sinkhole loss exposure for Coverage A is substantial. In addition, an examination of both the number of sinkhole losses and the sinkhole payments during the period 1999 and 2003 shows that both frequency and severity have increased:²⁸

<u>Year</u>	<u>Number of Sinkhole Claims</u>	<u>Sinkhole Claims in Dollars</u>	<u>Average Sinkhole Loss in Dollars</u>
1999	348	\$22,391,249	\$64,343
2000	429	\$32,114,080	\$74,858
2001	727	\$52,626,521	\$72,389
2002	343	\$48,619,381	\$141,747
2003	1,018	\$65,069,152	\$63,919

²⁸ Note, the number of sinkhole claims is the total number of claims submitted for all four affected coverages for each year of the sample period.

3. Loss Costs and Rates

Loss Costs. The underlying trend in the provided masonry claims data was tested on a 3-year, 4-year, 5-year and 6-year basis. The following is estimates of the “smoothed” annual statewide loss costs for Florida sinkhole insurance losses:²⁹

<u>Year</u>	<u>Masonry</u>	<u>Frame</u>
1997	0.256	0.064
1998	0.271	0.068
1999	0.286	0.073
2000	0.302	0.075
2001	0.317	0.079
2002	0.332	0.083
2003	0.347	0.087
2004	0.363	0.091
2005	0.378	0.095
2006	0.398	0.100

The masonry loss costs are calculated by applying 3-year and 4-year least squares regression techniques to the masonry loss costs provided by the insurers who participated in the study.³⁰ As noted above, given the sparseness of the frame data, loss costs for frame construction types are derived as a proportion of the masonry exposure. As can be seen above, the increase in trended statewide loss costs over this 10-year period is fifty-five percent (55%).

These “smoothed” loss cost calculations are derived from the insurance company data. The smoothing process places each zip code’s loss cost into a “loss cost group” based upon the

²⁹ The collection of insurance data by accident-year presents problems because sinkholes do not occur evenly throughout the year. Additionally, insurers may not be uniform in their coding of accident dates; nor are they uniform in their development of paid losses. As such, trends are based on smooth loss costs. See the full report in Appendix M for a complete description of the process used to calculate statewide sinkhole loss costs. Also note that while the loss costs are shown for 1997 and 1998, as mentioned previously, the data for these years are not included in the trend calculations.

³⁰ While this technique is lacking in providing a statistically acceptable approach to “trending”, and the results fall short of being highly credible, the masonry loss costs produced on this exhibit do provide a basis for a review of the loss costs underlying the insurance data.

magnitude of the individual zip code loss cost. Given the low frequency, moderate to high severity nature of sinkhole claims, this process is designed to minimize the erratic effects of individual zip code loss cost experience and reveals the areas of the state with significant sinkhole losses. For example, the first two zip codes reported in the highest grouping of zip codes by sinkhole loss costs have projected loss costs of 9.85 are 33662 (Hillsborough County) and 34673 (Pasco County) for 2006.

To gain a better understanding of the implications of loss costs, specifically statewide versus high loss cost group, it is necessary to consider their impact on premium. These loss costs are based on \$1,000 of Coverage A (Dwelling). Assume that a policyowner has a homeowners' policy with a Coverage A limit of \$200,000. The additional homeowner premium using the 2006 statewide loss costs is \$79.60.³¹ Using the loss cost from the high loss cost group for 2006, the additional homeowner premium is \$1,970.³² This illustrates the importance of the statewide versus regional and mandatory versus optional coverage issues, which are discussed in more detail later in this section.

Facility Cost Estimates. In order to obtain additional information on the feasibility of operating a sinkhole facility, Citizens provided costs estimates for:

1. a reinsurance facility where the insurers would cede one hundred percent (100%) of the coverage to the facility; and
2. a direct facility where the insurers would write coverage without the sinkhole exposure and the facility would write the sinkhole exposure.

The calculations were made using the following assumptions:

- 2,000 sinkhole losses per year
- Average severity is \$38,000
- Adjusting and Other (A&O): Adjusters fees are 4% of losses

³¹ Calculated as $200000/1000 * \$0.398$.

³² Calculated as $200000/1000 * \$9.85$.

- Adjusting and Other (A&O): Facilities and Overhead are 1.5% of losses
- Defense and Cost Containment (D&CC): Engineering costs are \$7,500 per claim

The following is the cost estimate for the reinsurance facility:

No variable costs	\$	-
Fixed costs:		
Staffing costs with benefits load		
Manager (1)		111,600
Engineer (1)		99,200
Claims coordinators (4)		297,600
Software development		200,000
Facilities & other overhead		1,140,000
Total fixed costs		1,848,400
Total loss adjustment expenses	\$	1,848,400

While the above estimate does not include any variable costs, the facility may incur variable types of expenses in adjusting the reinsurance claim (e.g., adjusting, legal).

The following is the cost estimate for the direct facility:

Variable costs:		
A&O – adjuster fees		3,040,000
D&CC - engineering review		15,000,000
		18,040,000
Fixed costs:		
Staffing costs with benefits load		
Manager (1)		111,600
Engineer (1)		99,200
Claims coordinators (4)		297,600
Software development		200,000
Facilities & other overhead		1,140,000
Total fixed costs		1,848,400
Total loss adjustment expenses	\$	19,888,400

The average loss adjustment expense is \$9,944 and it is calculated as the total loss adjustment expenses (\$19,888,400) divided by the assumed number of sinkhole claims (2,000). This means that an amount of approximately \$9,944 per claim would initially be needed for loss adjusting expenses associated with adjusting sinkhole claims. If the entity writing sinkhole

coverage provides direct coverage, additional amounts will be necessary to provide for commissions, acquisition costs (including policy writing, etc.), underwriting, and other general expense costs. Additional costs such as premium taxes will be dependent upon the legislation establishing the entity. Either type of facility may incur additional operating costs related to the need for actuarial and/or auditing services. These costs will depend in part on whether and to what degree the engineering, managing, auditing, and pricing functions are outsourced. For example, the facility may need to purchase outside actuarial and modeling services. If premium and loss payments are involved, then the facility will need to incur audit expenses with regards to premium payments.

Rates. Based on the average loss adjustment expense and the loss costs noted above, the estimated statewide premium per \$1,000 of Coverage A is \$.553 for masonry and \$.195 for frame.³³ This rate assumes that every policyholder will be required to carry the coverage. The loss costs by zip code help to highlight the regional variation in exposures.

Further, Appendix M contains several maps that show sinkhole activity and reported sinkhole claims including: (1) sinkhole loss costs overlaid onto historical sinkhole data from the United States Geological Survey (USGS) and the Florida Geological Survey; and (2) sinkhole loss costs overlaid onto sinkholes as reported by the FGS for the period 1997 to 2003. In reviewing these maps, it is apparent that there are regions in which sinkhole activity appears to be concentrated. In some cases, there appear to be differences between the pattern of geological sinkholes and insured sinkhole claims. Specifically, there are sections in the central west and central parts of Florida that have significant sinkhole loss costs though there do not appear to be sinkholes in those particular areas. There are several possible explanations for these differences.

First, the losses may result from sinkholes that are not in either the USGS or FGS databases. Examples could include new sinkhole formations that have caused damage to residential property as well as existing sinkholes that have not been reported to the USGS or the FGS. Since there is no requirement for mandatory reporting to these agencies, it is possible that their databases are incomplete. Second, the differences may reflect the underlying inconsistencies between the geological definition of a sinkhole and how it is defined in the insurance contract. As noted in the actuarial report, insurers appear to be coding claims as ‘sinkhole’ claims in a way that is inconsistent with the geological definition of sinkholes. Finally, it is possible that some of the areas identified by the USGS and/or FGS as having sinkhole activity but that do not show reported sinkhole claims from insurers may be the result of incomplete loss data due to the lack of participation of some insurers in the data call.

Regardless of these discrepancies, as discussed in other areas of this report, the Legislature must decide if the offer of coverage for the peril of sinkhole will be mandatory only in areas prone to sinkhole losses or statewide. Further, a decision must be made as to whether insureds will be allowed to waive coverage. It is important to note that the premium charged could vary significantly based on the outcome of this decision. As such, the variations in loss costs across the state should be considered.

4. Summary

Both the frequency and total severity of sinkhole losses have increased during the period under investigation. Based on the trending analysis provided on statewide loss costs, sinkhole loss costs are projected to increase for the masonry construction category from .258 to .398 for

³³ See Table 1 of the actuarial report found in Appendix M for additional information.

the 10-year period ending in 2006. Although caution must be exercised in using these loss cost figures, they do reflect the underlying trends of an increasing number of sinkhole losses.

An examination of the smoothed loss costs illustrates that sinkhole losses are not prevalent in most zip code areas and are a regional phenomena. In addition, in those areas where sinkhole losses are prevalent, the impact is significant and is expected to worsen. Specifically, assuming a \$200,000 Coverage A limit, the 2006 statewide loss costs would add an additional \$79 to the homeowner's premium. However, pricing by loss cost group would add an additional \$1,970 to premium for policyowners in the highest loss cost group. Further, there are an additional twenty-four zip codes with projected loss costs in excess of \$3.00.

The maps contained in Appendix M suggest there are differences in geological sinkhole activity as reported by the USGS and FGS and the reported sinkhole losses to insurers. As such, a combination of analyses of geological data as well as insurance industry data may provide a better estimate of future sinkhole losses. Insurance industry data should be used to verify the loss costs produced by the geological data as well as to adjust the results of the geologically modeled loss costs for definitional differences between the geological and insurance industry definitions. Improved sinkhole loss data collection efforts will help in improving future loss costs forecasting efforts.

E. TAX IMPLICATIONS

The decisions the Legislature makes regarding the structure, placement, governance, and financing issues discussed above will be the primary determinants of whether a sinkhole facility will be exempt from federal income taxation as an integral part of the state. Because the size of a sinkhole facility will almost certainly be much smaller than that of entities such as the Cat Fund and Citizens, the Legislature will need to carefully evaluate other considerations to establish the priority to place on achieving tax-exempt status.

Traditionally, residual market mechanisms in the United States for auto insurance, property insurance, and other lines of insurance have been subject to federal income taxation, either directly or indirectly, through allocation of revenues and expenses to taxable member insurers. While these mechanisms are not for profit, they are usually structured as associations of their member insurers and are governed by boards whose members are selected substantially or wholly by the member insurers.

1. Examples of Residual Markets with Tax Exempt Status

Because of the hurricane and earthquake catastrophes in the 1990s, California, Florida, and Hawaii each established special insurance mechanisms that the IRS determined were exempt from federal income taxation as “integral parts of the state.” In each case, the IRS issued one or more private letter rulings setting forth its analysis and conclusions. The entities covered by these private letter rulings were the California Earthquake Authority, the Florida Hurricane Catastrophe Fund, and the Hawaii Hurricane Relief Fund (HHRF).³⁴

³⁴ The Hawaii Hurricane Relief Fund is now dormant.

Separately, the Florida Residential Property and Casualty Joint Underwriting Association (FRPCJUA) undertook an effort in 1999 to obtain federal tax-exempt status by convincing the IRS that it was an integral part of the State of Florida. The FRPCJUA argued that it had substantially the same characteristics as the CEA, Cat Fund, and HHRF. In 2000, the FRPCJUA filed a lawsuit in the U.S. District Court for the Northern District of Florida. The Federal Court received motions for summary judgment and heard oral arguments in late 2001, and it ruled in favor of the FRPCJUA in early February 2002.³⁵

As the FRPCJUA's lawsuit was nearing its conclusion in late 2001, Tom Gallagher, Florida's State Treasurer and Insurance Commissioner (now Chief Financial Officer), submitted a request to the IRS for a ruling to exempt Citizens from federal income taxes if the Florida Legislature enacted legislation he had proposed to combine the FRPCJUA and the Florida Windstorm Underwriting Association into Citizens. This request was submitted to the IRS in October 2001, and the IRS issued a favorable ruling in late February 2002. The IRS ruling was thought to be an important factor in the subsequent passage of the Citizens' legislation.³⁶

2. IRS Position

The important question is what characteristics did the CEA, Cat Fund, HHRF, FRPCJUA, and Citizens have that distinguished them from the dozens of traditional residual market mechanisms and led the IRS and a federal court to grant them tax exempt status as an integral part of the state? The answer to this question will provide significant guidance to the Florida Legislature in developing legislation to establish a sinkhole insurance facility.

³⁵ See Appendix I for a copy of the District Court ruling related to the FRPCJUA's request for tax-exempt status.

³⁶ See Appendix I for correspondence and rulings related to the tax-exempt status for Citizens.

The IRS position on whether an enterprise is an integral part of the state has evolved through numerous IRS rulings and a limited number of court decisions. The recent position of the IRS is set forth in the statement below:

“(I)n determining whether an enterprise is an integral part of the state, it is necessary to consider all of the facts and circumstances, including the state’s degree of control over the enterprise and the state’s financial commitment to the enterprise.”

The factors considered by the IRS do not constitute a bright line test but involve a weighing of the evidence. An enterprise, such as a residual market mechanism, falls somewhere along a spectrum with all private sector characteristics at one end and all governmental characteristics at the other. At some point on the spectrum, which is not clearly identified, an enterprise has enough governmental attributes to be considered an integral part of the state. With fewer such attributes, it does not achieve this status.

The position of the IRS set forth above focuses on, but is not limited to, two areas of interest: (1) the nature and extent of the state’s control of the enterprise; and (2) the nature and extent of the state’s financial commitment to the enterprise. While other factors are relevant, these two areas seem to be of utmost concern to the IRS.

Nature and Extent of State Control. The IRS seems to focus initially on the governing board that oversees and sets policy for the enterprise. It wants to see the board made up or under the clear control of one or more high-level government officials. This distinguishes the enterprise from those that are merely authorized by or regulated under state statutes. In this regard, the IRS has accepted various approaches to achieving direct state control. Examples include:

- *California Earthquake Authority* - The governing board of the CEA consisted at the outset of the Governor, the Insurance Commissioner, and the State Treasurer. Later, two legislative leadership positions were added.
- *Florida Cat Fund* - The Cat Fund's governing board is the State Board of Administration, which at the time of the Cat Fund's creation, consisted of the Governor, the State Treasurer, and the State Comptroller.
- *Hawaii Hurricane Relief Fund* - The HHRF board consists of the Insurance Commissioner and six other members: two appointed by the Governor, two appointed by the Senate President, and two appointed by the Speaker of the House. In addition, the Governor appoints the board chairman and vice chairman.
- *Citizens and FRPCJUA* - The legislation creating Citizens took a different but equally successful approach. Control of Citizens is placed with the Chief Financial Officer of Florida who appoints all members of the Citizens board and the board chairman, and has the power to remove board members without cause. The FRPCJUA statute, which was initially enacted in December 1992, took a less direct approach, which contributed to the FRPCJUA having to sue the IRS to achieve tax-exempt status. The State Treasurer had the authority to appoint eight of the thirteen board members, which the FRPCJUA argued placed control of the FRPCJUA with the State Treasurer. This and numerous examples of indirect control of the FRPCJUA by the State Treasurer seems to have been sufficient to convince the Federal Court on this point.

Because residual market mechanisms typically operate pursuant to a plan of operation, the degree of state control over the plan of operation is a relevant consideration. The Office of Insurance Regulation (OIR) in the Department of Financial Services has the authority to approve or disapprove the Citizens' plan of operation by order, to subject the plan of operation to continuous review, and to withdraw approval by order of all or a portion of the plan of operation if the OIR "determines that conditions have changed since approval was granted and that the purpose of the plan requires changes in the plan." The FRPCJUA statute contained similar language before the creation of Citizens.

Nature and Extent of State Financial Commitment. With regard to the state’s financial commitment to an enterprise, the IRS does not seem to favor any particular approach but does require a substantial financial contribution from the state at the outset or over the life of the enterprise. Specifically:

- *California Earthquake Authority* - The CEA is required by California law to include the state premium tax in its rates; however, the CEA is not required to pay the premium tax to the state. In its private letter ruling on the CEA, the IRS stated:
“California will have a significant financial interest in the (CEA). California effectively makes an annual contribution of the 2.35% premium tax equivalent that is charged to the policyholders and retained by the (CEA). The result is substantially the same in this case if California had collected the premium tax and contributed the full amount of that premium tax directly to the (CEA).”
- *Citizens* - The Citizens statute contains a variation of the CEA approach. The rates charged by Citizens include the state premium tax, which Citizens pays to the state. The Citizens’ rates also are required by statute to include an additional amount equal to the state premium tax, which Citizens retains to augment its financial resources. This approach has three beneficial effects: (1) Florida state government continues to receive the same premium tax revenues it received previously; (2) Citizens receives a state-directed financial contribution each year; and (3) the additional amount included in the Citizens’ rates help keep the rates from being competitive with rates charged by private insurers. The State of Florida’s financial commitment to Citizens has a number of other elements. The Citizens statute provides exemptions from corporate income and intangible taxes and the express authority to levy and retain the proceeds of market equalization surcharges on its policyholders. While these surcharges help keep Citizens’ rates from being competitive with rates charged by private insurers, they also have the effect of directly supplementing the financial resources of Citizens.
- *Florida Cat Fund* - The State of Florida’s financial commitment to the Cat Fund was of a different nature. The Legislature appropriated \$25 million to the Cat Fund each year during its initial two years of operation for a total of \$50 million. Because the Cat Fund is housed in the State Board of Administration, it does not pay any state taxes such as premium taxes, corporate income taxes, or intangible taxes.³⁷
- *Hawaii Hurricane Relief Fund* - The primary approach used by the State of Hawaii to fund the HHRF was to impose a one tenth of one percent (.10%) special

³⁷ See Appendix I for IRS communications concerning the tax-exempt status of the Florida Cat Fund.

recording fee on the principal amount of various mortgage instruments. This fee was suspended as of July 1, 2001 when the HHRF was deactivated. The HHRF statute also exempts the HHRF from taxes and fees applicable to insurance companies.

Other Relevant Factors. While the state's degree of control of and financial commitment to the enterprise are very important, they are not the only considerations the IRS takes into account. Fundamentally, the IRS evaluates all aspects of the enterprise to determine whether the enterprise is more public or more private in its purpose, nature, and structure.

The CEA, Cat Fund, FRPCJUA, HHRF, and Citizens each have other characteristics that enhanced their public character and further differentiated them from private entities. These other characteristics were important elements in the ultimate judgment that these entities should be exempt from federal income taxation as an integral part of the state. Although none of these entities has all of the characteristics listed below, it is important to consider the applicability of these characteristics to any enterprise seeking tax-exempt status:

- The CEA, Cat Fund, and Citizens statutes each have a clear statement of public purpose related to the benefits the state and its citizenry receive from having an insurance mechanism to make coverage available when private insurers are unwilling or unable to do so and, thereby, enhance the public health, safety and welfare and the economy of the state and local governments.
- The Citizens statute includes a statement of legislative intent that income of Citizens be exempt from federal income taxation and that interest on the debt obligations issued by Citizens be exempt from federal income taxation. Similar language was contained in the Cat Fund statute.
- The Citizens statute states that “no part of the income of (Citizens) may inure to the benefit of any private person.”
- All of the employees of the CEA except for the three senior executives are employees of the State of California.
- The Cat Fund is a state trust fund administered by the State Board of Administration, and the staff members are State of Board of Administration employees.

- The Citizens statute gives the Chief Financial Officer (CFO) of Florida the power to engage the Executive Director and senior managers of Citizens, who serve at the CFO's pleasure. The statute also provides that the Executive Director is responsible for employing other staff as needed but that these hiring decisions are subject to review and concurrence by the Office of the CFO. This level of control over the staff of Citizens seems to have been acceptable to the IRS as an alternative to its apparent preference for most or all of the staff being state employees.
- The HHRF statute places the HHRF in the Department of Commerce and Community Affairs for administrative purposes.
- Citizens is subject to the "Government in the Sunshine" Act and, with certain statutory exceptions, to the Public Records Act. During most of its existence, the FRPCJUA statute contained the same requirements.
- The Citizens statute requires that its rates not be competitive with rates of private insurers. This is intended to achieve the stated legislative intent that Citizens only provide coverage to those persons who are otherwise eligible to obtain coverage but are unable to obtain coverage in the private insurance market. The FRPCJUA statute had similar language.
- The Citizens statute provides that, upon dissolution of Citizens, all assets remaining after payment of obligations become the property of the State of Florida to be deposited into the Cat Fund. The FRPCJUA statute had similar language.
- The HHRF statute states that upon its dissolution net assets of the HHRF may be placed in either the state general revenue fund or the loss mitigation grant fund.
- The Cat Fund statute provides that, upon termination of the Cat Fund, all of its assets revert to the state general revenue fund.
- Citizens is required by statute to submit special monthly reports to the Office of Insurance Regulation beyond those required of private insurers.
- Citizens and its agents, employees, board members, committee members, and assessable insurers are granted statutory immunity from lawsuits, with certain exceptions. The FRPCJUA statute had similar language. The HHRF statute also has a similar immunity provision.
- Employees of Citizens (and before Citizens, employees of the FRPCJUA) have been issued State of Florida identification cards and authorized to utilize state travel and hotel discounts.

3. Summary

The experiences of the CEA, Cat Fund, HHRF, FRPCJUA, and Citizens all provide guidance regarding how a similar state-created sinkhole facility may be able to obtain exemption from federal income taxation as an integral part of the state. The statutes creating these entities had to shape their governance, structure, financing and operations to meet IRS guidelines related to: (1) state control; (2) state financial commitment; and (3) other factors that, taken together, clearly established their public character and differentiated them from private entities. While tax-exempt status may or may not be a significant priority in the final decision, it is a consideration if a facility is to be established.

VI. NON-INSURANCE SINKHOLE-RELATED SERVICES

In addition to the risk financing aspects of the sinkhole issue, there are several key non-insurance services that must be provided in order to effectively manage the sinkhole exposure in Florida. These fundamental services include: (1) training, communication, and education services for impacted parties; (2) establishing uniform evaluation and remediation standards for potential sinkhole claims; (3) providing consulting services for insurers; and (4) developing a public database of sinkhole claims and exposures.

A. TRAINING, COMMUNICATION, AND EDUCATION

The tasks related to training, communication, and education impact a variety of groups including the public, engineers, the construction industry, insurance professionals, and others. As a result, this function requires a multi-faceted approach. One method of understanding the scope of the efforts relates to using the models provided by the mine subsidence funds, the CEA, and the NFIP. As outlined in Section IV, these facilities provide an array of communication and training services through their websites, publications, and presentations. Samples of these materials can be found in Appendix F.

There are economies of scale, as well as other efficiencies, in having one central source for training, communication, and education related to sinkholes. Not only would this approach remove costs associated with duplication of efforts, but a consistent set of documents would remove problems related to conflicting information. This may help to reduce the number and severity of claims disputes.

There are several options for managing the training, communication, and education function. If a sinkhole facility is created, this function can be performed entirely or in part by the

facility. Another option would be for an existing entity, such as an existing insurance entity or another entity with expertise in the area of identifying and understanding sinkholes, to provide this information. An example would be the Florida Geological Survey. The FGS has trained experts with knowledge in identifying sinkholes and other forms of subsidence. Additionally, the FGS has relationships with others in the geoscience community that would be involved in the identification and remediation of sinkholes. The use of an independent party also has the advantage of creating unbiased material with the interests of a variety of stakeholders in mind. Further, this group can continue operation even if changes related to the funding of the sinkhole peril occur over time due to the size of the residual market or changes in the pricing structure of the coverage.

B. UNIFORM EVALUATION STANDARDS

One issue repeated in recommendations from representatives of the geoscience and engineering communities is the need for uniform identification and claims adjustment processes and a clear definition of what constitutes a sinkhole loss. For this reason, suggestions have been made on these aspects by representatives of the geoscience and engineering communities.

1. Recommendations on Identification

Based on the “Sinkhole Summit II”, the Florida Geological Survey made recommendations on the investigation and evaluation of sinkhole claims. The protocols provided are intended for the use of geological and geotechnical consultants to assist in standardizing subsidence claim investigations. These procedures are not intended to replace site-specific activities. They are, however, offered as guidelines to assist in developing sufficient information to confirm the cause(s) of subsidence-related damage to a structure. These guidelines are listed in the sequence that should typically be followed, where possible. It is not suggested that all the tests are appropriate in every situation. Good professional geological practice and judgment will dictate necessary testing. A full listing of the subsidence investigation protocols suggested by the participants of the “Sinkhole Summit II” is contained in Appendix L. The guidelines contain the following major topics and suggestions:

- Outlines for the use of professional judgment;
- Description of professional qualification;
- Guidelines for professional practice;
- Protocols for data gathering;
- Description of geophysical site characterization;
- Guidelines for subsurface geotechnical testing and geological interpretations;
- Guidelines for laboratory testing;
- Guidelines for structural inspection;
- Description of final report creation; and
- Guidelines for retention of samples and data.

2. Recommendations on Remediation

Similar to the “Sinkhole Summit II,” another meeting was conducted to obtain the suggestions of representatives of the geoscience community relating to proper and consistent remediation of sinkholes. Complete meeting notes can be found in Appendix L. The key findings of the discussion are as follows:

- All sinkhole remediation activity must be based on scientific determination by a qualified professional that a sinkhole has occurred.
- There is a need to further the science of remediation technology.
- There is a need to improve the quality and accessibility of a public sinkhole database.

Also important to the discussion of remediation is the experience of other single-peril markets in the investigation and remediation of claims. In the case of several mine subsidence facilities, such as the Illinois Fund, the importance of specialized adjusters and consistent claims handling is paramount for the effective handling of claims and reduction in disputes. The use of the expertise of geologists and other geotechnical experts is important given the specific nature of this peril and the difficulty in assessing the presence of subsidence stemming from sinkhole activity versus other forms of subsidence. Using the recommendations from both meetings to develop a standard procedure for the adjustment of sinkhole losses as well as a potential centralization of this effort should help to reduce overall sinkhole-related claims costs.

3. Definition of Sinkholes

Another related issue in the investigation and remediation of sinkhole claims is the importance of a clear definition of sinkhole loss and sinkhole activity. The geoscience experts at the “Sinkhole Summit II” defined this as a major problem in the current process of dealing with sinkhole claims, as did the engineers at the remediation meeting. To eliminate some of the historical causes for confusion and poor understanding regarding the existing definitions and

suggested sinkhole investigation standards currently found in the Florida Statutes, the participants of the “Sinkhole Summit II” recommended several changes. First, there is a lack of clarity of the term “sudden” as currently used in the statute. Sinkholes may occur catastrophically and instantaneously, or on a sustained basis (imperceptibly over night, over weeks, a season, over years, or over dozens of years). Any and all can destroy a structure. Some observed features of a slow sinkhole may not be visible for some time after initial movement. Since the timing is generally not quantifiable, and the term “sudden” is not defined or generally applicable, the word has been defined using constantly changing interpretations. Second, those in attendance suggested that language should be added to clarify the legislative intent to deal with sinkhole loss caused from continuing geologic processes that occur throughout Florida. This should eliminate categories of collapse from anthropogenic causes such as subsurface construction debris compaction, water line or sewer line collapse, leaks, decay of tree stumps, past mining activities, or poorly designed wells.

The geologists commented on the need to clarify the language in Section 627.707, F.S., Minimum Standards for Investigation of Sinkhole Claims by Insurers. Sinkholes are features that intersect the land surface, potentially impacting structures located and built on near-surface, shallow geologic materials, including soils, sediments, rock, and fill. The depth of origin of the void caused by dissolution of limestone or other soluble geologic material varies with the local stratigraphy and hydrogeology. Solution action on subsurface limestone is present throughout all of Florida and can be found at most locations at depth. The term “sinkhole activity” has been used to suggest that subsurface, dissolution-related features distant in terms of geographic vicinity or depth from the structure in question represent the process that has caused damage to the structure. This is not the case until the movement of geologic materials into the solution

feature, void, or cavern phenomena are near enough to the surface to cause a sinkhole loss. Instances of subsurface solution activity cannot be quantified with some threshold of depth, distance, and magnitude in order to qualify as a possible source of distress at the surface. The statute wording may need to be changed to provide clarity and eliminate erroneous interpretations of distant, subsurface karst activity as reflecting a sinkhole loss at the land surface. The majority of participants in the “Sinkhole Summit II” felt this was an important point, and recommended the statute be change as described in their report provided in Appendix L.

C. CONSULTING SERVICES FOR INSURERS

Regardless of the funding mechanism selected for the payment of sinkhole claims, there are specific needs for the insurance community with respect to the effective management of the peril. The first set of issues, as outlined above, relate to the effective communication and education of policyholders as well as those tasked with the identification, evaluation, and remediation of the claims. Increases in the scope and accuracy of a sinkhole database, as discussed in the next section, will help not only with the identification of claims, but also with the establishment of a fair rate for the peril. Based on the nature of the peril, close work with the geoscience and engineering communities is needed so that insurers can appropriately detect and respond to the claims made under this coverage.

Another consulting service that would be useful to insurers and other parties relates to outreach efforts to collect improved data for use by engineers, the construction industry, and others. It is likely that an early training initiative would focus on the use of “minimum threshold” standards for verification of a sinkhole. That verification would then be the basis of cost estimates and recommendations for appropriate remediation procedures. The purpose would be to discover and promote cost-effective remediation effects.

If a facility is created to deal with the funding of sinkhole claims, insurers may obtain some of these services from that facility. Another approach could be the use of a third party with specialized knowledge in the detection and remediation of sinkholes for many of the non-insurance related functions. As mentioned earlier, the Florida Geological Survey is a potential candidate for this type of function. Given that the FGS already exists, by housing the basic non-insurance consulting service within this organization, there would not be an interruption of service as a result of changes in the funding mechanism used to pay the claims. Further,

outsourcing the more geotechnical-related tasks of the facility would allow those responsible for the insurance-related functions to focus on the financing issues without the need to have specialized knowledge of the geological-related tasks. This would streamline the functions of a potential sinkhole facility in terms of both costs and staffing.

D. PUBLIC DATABASE OF CLAIMS AND EXPOSURES

Originally, the Florida Sinkhole Research Institute was commissioned to house and maintain a sinkhole database for the state of Florida. Over time, that facility ceased to exist. Currently, a sinkhole database is maintained by FGS on an *ad hoc* basis. Based on funding issues and the lack of reporting requirements, the database is currently incomplete and unable to be accessed on a real-time basis. The current reporting form used by FGS can be accessed from the organization's website.³⁸

An improved database will be helpful in outreach and educational efforts, especially by allowing insurers to improve their rating procedures. The current database is updated sporadically and the data in it are a function of mainly volunteer reporting efforts. FGS has geographic information system (GIS) capabilities, but it has not been able to use personnel to make site visits to confirm reported sinkholes. FGS does make data available on its website.

A key issue in improving the database is the way in which all entities can be encouraged to submit reports to the database administrator. Essentially, current voluntary compliance has resulted in an incomplete database. Legislation mandating reporting, perhaps coupled with a limited public records exemption, might assist with needed improvements. Another salient issue includes the distinction between reported sinkholes and actual, scientifically verified sinkholes.

A useable database that reflect the needs of interest parties would contain, at minimum, the following:

- Reports of sinkholes;
- Confirmations of sinkholes, based on site visits and application of scientific criteria;
- Dollar amounts of paid sinkhole loss claims by insurance companies;
- The remediation technique applied to the particular loss;
- Reports of whether the remediation effort was successful; and

³⁸A copy of the reporting form can be found at <http://www.dep.state.fl.us/geology/forms/sinkreportform.htm>.

- Reports of instances when remediation was not feasible and property was either abandoned or converted to another use.

The entity housing a sinkhole database must have the resources and authority to maintain the database to improve the educational and outreach efforts described throughout this section. For reasons similar to those outlined in the consulting services for insurers section, there may be considerable advantages to housing the database in an entity other than a potential sinkhole facility.

VII. ALTERNATIVE DISPUTE RESOLUTION

As is the case with other types of losses, there is the potential for disagreements to occur between insureds and insurance companies. Given this potential, some method of alternative dispute resolution may be effective in reducing conflict and the associated delay and expense of litigation. This section begins with a brief overview of various forms of ADR methods. Next, it examines a Section 627.7015, F.S., which sets out an alternative procedure for handling disputed property insurance claims in personal lines. It follows with a summary of ADR methods employed by the subsidence funds established in other states. The section ends with an evaluation of these mechanisms and a discussion of changes that might be useful in addressing some of the specific issues associated with the settlement of sinkhole claims in the state of Florida.

A. OVERVIEW OF ALTERNATIVE DISPUTE RESOLUTION MECHANISMS

The most common forms of alternative dispute resolution are arbitration, mediation, mediation-arbitration, neutral case evaluation, mini-trial, and summary jury trial. Many states, by statute, also allow litigants to refer a lawsuit to a private judge for resolution. This procedure is commonly known as "rent-a-judge."

In arbitration, a neutral third party or panel hears the dispute and renders a decision. The proceeding may be binding or non-binding, and the scope of judicial review is usually limited. Arbitration may provide a number of benefits in resolving claim disputes. The use of the process may provide a prompt resolution to the dispute and thus, may incur less expense than resolution through litigation. In addition, it is possible that the dispute will be settled by an arbitrator who may possess specific business/engineering skills that allow for a more thorough understanding of

the issues. Conversely, litigation may rely on the experience of a jury that lacks such expertise. Given these advantages, there are some situations in which arbitration may not be appropriate. These include situations in which one side wishes to pursue extensive discovery and/or one or more parties prefer litigation as they feel there exists a body of substantial legal precedents in their favor.

In mediation, a neutral party, the mediator, attempts to help the parties negotiate a solution. Unlike a judge, however, the mediator has no power to impose a decision. In binding mediation the parties agree that if a resolution is not reached, the mediator can impose a binding decision. In mediation-arbitration, it is agreed that if mediation fails, the dispute will proceed to arbitration.

Another formalized method of settlement negotiation is the mini-trial, which generally shortens the time for preparing for trial. Like mediation, the mini-trial is usually conducted before a neutral advisor who advises and may render a non-binding opinion. In a summary jury trial, the adviser's role is assumed by a jury, but the verdict is non-binding. Another cost-saving development is the use of a neutral third party to perform an early neutral case evaluation.

B. ALTERNATIVE DISPUTE RESOLUTION PROCEDURES

1. Alternative Procedure for Resolution of Disputed Property Claims

The current statute relating to ADR is Section 627.7015, F.S., which describes a non-adversarial procedure for handling disputed property insurance claims in personal lines. The *pertinent* aspects of the statute are included below.³⁹

627.7015 Alternative procedure for resolution of disputed property insurance claims.—

(1)PURPOSE AND SCOPE.--This section sets forth a nonadversarial alternative dispute resolution procedure for a mediated claim resolution conference prompted by the need for effective, fair, and timely handling of property insurance claims. There is a particular need for an informal, nonthreatening forum for helping parties who elect this procedure to resolve their claims disputes because most homeowner's insurance policies obligate insureds to participate in a potentially expensive and time-consuming adversarial appraisal process prior to litigation. The procedure set forth in this section is designed to bring the parties together for a mediated claims settlement conference without any of the trappings or drawbacks of an adversarial process. Before resorting to these procedures, insureds and insurers are encouraged to resolve claims as quickly and fairly as possible. This section is available with respect to claims under personal lines policies for all claimants and insurers prior to commencing the appraisal process, or commencing litigation. If requested by the insured, participation by legal counsel shall be permitted. Mediation under this section is also available to litigants referred to the department by a county court or circuit court. This section does not apply to commercial coverages, to private passenger motor vehicle insurance coverages, or to disputes relating to liability coverages in policies of property insurance.

(3) The costs of mediation shall be reasonable, and the insurer shall bear all of the cost of conducting mediation conferences, except as otherwise provided in this section. If an insured fails to appear at the conference, the conference shall be rescheduled upon the insured's payment of the costs of a rescheduled conference. If the insurer fails to appear at the conference, the insurer shall pay the insured's actual cash expenses incurred in attending the conference if the insurer's failure to attend was not due to a good cause acceptable to the department. An insurer will be deemed to have failed to appear if the insurer's representative lacks authority to settle the full value of the claim. The insurer shall incur an additional fee for a rescheduled conference necessitated by the insurer's failure to appear at a scheduled conference. The fees assessed by the administrator shall include a charge necessary to defray the expenses of the department related to its duties under this section and shall be deposited in the Insurance Regulatory Trust Fund.

³⁹ For the complete text of Section 627.7015, F.S., see Appendix N.

(6) Mediation is nonbinding; however, if a written settlement is reached, the insured has 3 business days within which the insured may rescind the settlement unless the insured has cashed or deposited any check or draft disbursed to the insured for the disputed matters as a result of the conference. If a settlement agreement is reached and is not rescinded, it shall be binding and act as a release of all specific claims that were presented in that mediation conference.

(7) If the insurer requests the mediation, and the mediation results are rejected by either party, the insured shall not be required to submit to or participate in any contractual loss appraisal process of the property loss damage as a precondition to legal action for breach of contract against the insurer for its failure to pay the policyholder's claims covered by the policy.

The major characteristics of the mediation process are as follows: (1) it is available to both claimants and insurers prior to commencement of the appraisal process or litigation; (2) the costs of mediation are borne by the insurer (with some limited exceptions); (3) the mediation is nonbinding; and (4) the insurer loses the right to any contractual loss appraisal process if the insurer requests the mediation and the results are rejected by either party.

2. Alternative Dispute Resolution in State Subsidence Funds

The statutes that created the subsidence funds in other states do not generally address the issue of how disputes between insureds, insurers, and/or funds are to be resolved. There are, however, some exceptions. In Kentucky, an insurer who disagrees with the Kentucky Fund's determination of its obligation to pay any reinsured claim is entitled first to a hearing before the Commissioner, who makes findings of fact and conclusions of law and enters an order. If the insurer disagrees with the order, the insurer may appeal to the Franklin Circuit Court. In Pennsylvania, a policyholder whose claim is denied by the Fund has the right to appeal the denial to the Environmental Hearing Board.

In Illinois, the statute establishing the Illinois Mine Subsidence Insurance Fund contains a section that gives policyholders the right to submit disputes as to cause of loss to arbitration.

This section reads as follows:

Sec. 809.1. Arbitration.

In the event of a dispute between a policyholder and an insurer as to whether a residence or commercial building covered by mine subsidence insurance has been damaged by mine subsidence, a policyholder shall have the right to submit that dispute to arbitration in accordance with this Section. No policyholder shall have the right under this Section to submit to arbitration any issue regarding the amount of loss or damage caused to a residence or commercial building by mine subsidence.

Arbitration may be initiated only after the insurer has made a decision that the residence or commercial building covered by mine subsidence insurance was not damaged by mine subsidence and so notified the policyholder in writing, accompanied by a notice informing the policyholder of the policyholder's right to arbitration and containing specific reference to this Section. Within 60 days after receipt by the policyholder of the notification, the policyholder may initiate arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association, as then in effect. All costs of the arbitration shall be borne by the losing party. Appeals from the decision of the arbitrators shall be in accordance with the Uniform Arbitration Act as in effect in Illinois. (Source: P.A. 88-379.)

An insured may elect to arbitrate a dispute if there is a question as to whether the cause of damage is mine subsidence. In 2002, the Illinois Fund introduced designated adjusters into the claim process. As discussed in Section IV, a designated adjuster is an independent adjuster who has received specialized training from the Illinois Fund in the investigation and reporting of mine subsidence claims. When a mine subsidence claim is submitted to an insurer by a policyholder, the insurer notifies the Illinois Fund of the claim. The Illinois Fund assigns a designated adjuster to the claim, who then carries out a “cause and origin” investigation to determine whether the damage was caused by mine subsidence. If mine subsidence is determined to be the cause of the damage, the designated adjuster works with the insurer in determining an appropriate settlement amount. However, the claim is denied if the designated adjuster rules out mine subsidence as the

cause of the loss. Policyholders who disagree with that conclusion may arbitrate the claim in the manner described in the statute or litigate.

There are two major differences between the mediation process established under Section 627.7015, F.S., and the arbitration procedure used in Illinois. First, the Illinois ADR mechanism can only be requested by a claimant, while the Florida statute allows either party to request mediation. Second, Illinois has adopted a “loser pays” doctrine, while Florida assigns all costs to the insurer, with a few exceptions.

C. EVALUATION OF ALTERNATIVE DISPUTE RESOLUTION METHODS

The intent of mediation is to resolve conflict in an expedient and cost efficient manner. Given the significant loss adjustment expenses associated with sinkhole claims, it is expected that mediation would hold particular promise for the resolution of such claims. However, some of the characteristics of the mediation process used in Florida may impact its effectiveness by altering one or more parties' interest in a successful outcome. For example, the provisions of the current Florida statute may reduce the insured's incentive to reach a good faith settlement through the ADR process given that it is not binding and the costs are borne by the insurer. This is in contrast to the ADR method used in Illinois in which the costs of the arbitration are borne by the losing party.

Further, in determining what form of arbitration procedure is the most appropriate for resolving disputed claims related to sinkhole losses in Florida, it also may be necessary to consider: (1) the problems involved in determining whether sinkhole is the actual cause of loss; and (2) the legal environment in the state. Related to the first issue, the introduction of experts into the process may be appropriate in dealing with sinkhole claims in Florida. The participants of "Sinkhole Summit II" noted the need for professional expertise in assessing whether sinkhole is the likely reason for the observed damage to a structure. The group was in agreement that at least two topical areas of professional expertise may be needed for a complete assessment of such damage: (1) a professional geologist or a professional geotechnical engineer qualified in geology; and, where appropriate, (2) a professional structural engineer. The group also stressed the role of professional judgment, as opposed to a "cookbook" approach, in adjusting sinkhole claims.

One possible method of introducing experts into the process in Florida would be to use an approach similar to that established in Illinois. This would entail the hiring and training of specialized adjusters, as well as engineers and geologists, to make a determination as to the cause of loss. In the event a sinkhole facility is established and the facility employs the adjusters, any arbitration or litigation regarding the cause of loss would be between the policyholder and the facility, rather than between the policyholder and the insurer. Another alternative would be to leave the adjustment of sinkhole claims to the insurer, and allow the insured to arbitrate with the insurer if the claim is denied.

In addition to the use of specialized adjusters, changes to the arbitration process may be a viable option. For example, professional geologists and/or engineers with specialized expertise in the identification and remediation of sinkhole losses could be utilized. There are two ways in which to structure a panel using experts: (1) require all arbitrators involved in the process to be experts; or (2) require any “neutral” arbitrator on the panel to be an expert. The arbitrators could be selected from a list of geologists who are certified as experts in sinkhole losses maintained by the Office of Insurance Regulation or Florida Geological Survey.

The legal environment in Florida also is a consideration in developing an appropriate method of alternative dispute resolution for sinkhole losses. Section 624.155, F.S., allows any person to bring a civil action against an insurer when that person is damaged by bad faith actions on the part of the insurer. In addition, Section 627.428, F.S., requires insurers to cover an insured’s attorney’s fees when judgment is against the insurer.⁴⁰ These statutes are intended to: (1) encourage insurers to meet their obligation of good faith and fair dealing in the settlement of claims; (2) give insureds any damages to which they are entitled as a result of an insurer’s bad faith actions; and (3) protect a successful claimant from the potentially onerous legal costs of

pursuing legitimate claims against an insurer. However, they increase the potential costs of sinkhole claims and hence complicate the resolution of disputes.

One method of ADR that addresses these issues is non-binding arbitration, again with an expert arbitrator(s), but with the loss of these remedies if the insurer accepts and the policyholder rejects the decision of the arbitrator. In that circumstance, the policyholder would retain the right to litigate since the arbitration is non-binding, but would no longer be entitled to damages for bad faith or attorney's fees. A final ADR option, which is similar to the approach used in Pennsylvania and Kentucky, would utilize an administrative remedy within the Office of Insurance Regulation or other appropriate entity. In this case, the insured would be able to appeal to a board if not satisfied with the decision of the insured or facility.

⁴⁰ Both of these statutes are discussed in detail in the following section.

VIII. EFFECT OF STATUTES ON AVAILABILITY AND AFFORDABILITY

This section examines the impact of relevant statutes found in the Florida Insurance Code on the affordability and availability of sinkhole insurance. There are two statutes in the Code that relate directly to sinkhole insurance: (1) Section 627.706, F.S., Sinkhole Insurance, which mandates that sinkhole coverage be made available by insurers; and (2) Section 627.707, F.S., Minimum Standards for Investigation of Sinkhole Claims by Insurers; Nonrenewals, which outlines minimum standards an insurer must meet in investigating a claim for a sinkhole loss and the conditions under which property insurance may be nonrenewed based on the filing of claims for partial loss caused by sinkhole damage. Other statutes, not exclusively related to sinkhole coverage, may nonetheless impact the availability and affordability of sinkhole insurance through their effect on sinkhole-related litigation. These include:

1. Section 624.155, F.S., Civil Remedy
2. Section 627.428, F.S., Attorney's Fees

These statutes are described below, along with perceived problems with the statutes and an assessment of their likely effect on the affordability and availability of sinkhole insurance coverage.⁴¹

A. STATUTES RELATED TO SINKHOLE INSURANCE

1. Section 627.706, F.S., – Sinkhole Insurance

Section 627.706, F.S., requires every insurer authorized to transact property insurance in Florida make available coverage for insurable sinkhole losses on any structure and the personal property contained within it, to the extent provided in the form to which the sinkhole coverage attaches. The statute reads as follows:

⁴¹ The complete text of all of these statutes appears in Appendix O.

627.706 Sinkhole insurance.--

(1) Every insurer authorized to transact property insurance in this state shall make available coverage for insurable sinkhole losses on any structure, including contents of personal property contained therein, to the extent provided in the form to which the sinkhole coverage attaches.

(2) "Loss" means structural damage to the building. Contents coverage shall apply only if there is structural damage to the building.

(3) "Sinkhole loss" means actual physical damage to the property covered arising out of or caused by sudden settlement or collapse of the earth supporting such property only when such settlement or collapse results from subterranean voids created by the action of water on a limestone or similar rock formation.

(4) Every insurer authorized to transact property insurance in this state shall make a proper filing with the office for the purpose of extending the appropriate forms of property insurance to include coverage for insurable sinkhole losses.

The statute requires only that coverage for insurable sinkhole losses be “made available” to policyholders. Currently, insurers have complied with the statute by including sinkhole coverage on property policies sold within the state of Florida. Many of the statutes that established the subsidence funds in other states also mandate that coverage be made available, either statewide or in the counties most susceptible to subsidence. In some states, insureds are given the option to waive the coverage if they so desire. That approach could be implemented in Florida without the need to make any changes in the existing statute. While this approach would be simple from a legislative standpoint, there is the potential for adverse selection. That is, it is possible that only those in sinkhole prone areas will elect the coverage, thus increasing the overall ratio of losses to premiums in those areas. This may result in problems with both affordability and availability in regions in which sinkhole losses are more likely to occur.

The effect of Section 627.706, F.S., on the availability of sinkhole insurance has been mixed. For those property owners who have been able to procure property insurance on their structures, the statute has made available coverage for sinkholes that would otherwise have been eliminated under the general exclusion for “earth movement” that is found in such policies.

However, the disproportionate growth in the number of policyholders in the Tampa Bay area who obtain their residential property insurance from Citizens rather than from insurers in the private market may have resulted, at least in part, from the growth of sinkhole claims in that area.

The effect of Section 627.706, F.S, on the affordability of property insurance is tied to the frequency and severity of sinkhole losses. The 1992 report found that sinkhole losses represented a small portion of premium dollars (0.052 percent in 1991), but noted a rapid increase in frequency and severity of those losses. Likewise, the 2002 report showed a rise in the occurrence of sinkhole claims, particularly in the central regions of the state, as well as a steady increase in the severity of payments for damage to structures. The data obtained for the current study show total sinkhole losses in 2003 of over \$67 million on 1,749,282 policies, for an average cost per policy of \$38.68. This amount represents 3.71 percent (3.71%) of the total annual premiums in 2003, as compared to the 0.052 percent (0.052%) reported in 1991. As such, the data suggest that the statute requiring insurers to offer coverage that would otherwise not be provided is having an increasing effect on the affordability of property insurance sold in the state.

The participants of the “Sinkhole Summit II” recommended changes in the definition of “sinkhole loss” found in Item (3) of Statute 627.706, F.S. As stated in that report, the purpose of the proposed changes is “to eliminate some of the historical causes for confusion and poor understanding regarding the existing definitions and suggested sinkhole investigation standards currently found in the Florida Statutes.”⁴² The suggestions of the geological community highlight the geological definitional concerns with the current language of the statute. By clarifying the language to more precisely define actual sinkhole losses, insurers or a sinkhole

⁴² For the full text of the report, see Appendix L.

facility will be better able to price the coverage. This should have a positive impact on both the availability and affordability of coverage in the state.

2. Section 627.707, F.S. -- Minimum Standards for Investigation of Sinkhole Claims by Insurers; Nonrenewals

Section 627.707, F.S., sets forth minimum standards an insurer must meet in investigating a claim for a sinkhole loss. The statute reads as follows:

627.707 Minimum standards for investigation of sinkhole claims by insurers; nonrenewals.

(1) Upon receipt of a claim for a sinkhole loss, an insurer must meet the following minimum standards in investigating a claim:

(a) Upon receipt of a claim for a sinkhole loss, the insurer must make an inspection of the insured's premises to determine if there has been physical damage to the structure which might be the result of sinkhole activity.

(b) If, upon the investigation pursuant to paragraph (a), the insurer discovers damage to a structure which is consistent with sinkhole activity or if the structure is located in close proximity to a structure in which sinkhole damage has been verified, then prior to denying a claim, the insurer must obtain a written certification from an individual qualified to determine the existence of sinkhole activity, stating that the cause of the claim is not sinkhole activity, and that the analysis conducted was of sufficient scope to eliminate sinkhole activity as the cause of damage within a reasonable professional probability. The written certification must also specify the professional discipline and professional licensure or registration under which the analysis was conducted.

(c) If the insurer obtains, pursuant to paragraph (b), written certification that the cause of the claim was not sinkhole activity, and if the policyholder has submitted the sinkhole claim without good faith grounds for submitting such claim, the policyholder shall reimburse the insurer for 50 percent of the cost of the analysis under paragraph (b); however, a policyholder is not required to reimburse an insurer more than \$2,500 with respect to any claim. A policyholder is required to pay reimbursement under this paragraph only if the insurer, prior to ordering the analysis under paragraph (b), informs the policyholder of the policyholder's potential liability for reimbursement and gives the policyholder the opportunity to withdraw the claim.

(2) No insurer shall nonrenew any policy of property insurance on the basis of filing of claims for partial loss caused by sinkhole damage or clay shrinkage as long as the total of such payments does not exceed the current policy limits of coverage for property damage,

and provided the insured has repaired the structure in accordance with the engineering recommendations upon which any payment or policy proceeds were based.

Upon receipt of a sinkhole claim under the current statute, the insurer must make an inspection of the insured's premises to determine if there has been physical damage to the structure that might be the result of sinkhole activity. If that inspection shows damage to a structure that is consistent with sinkhole activity, or if the structure is located in close proximity to a structure in which sinkhole damage has been verified, then the insurer may deny the claim only after further requirements are met. Specifically, the insurer can deny the claim only if it can show that: (1) the cause of the damage is not sinkhole activity; and (2) the analysis conducted was of sufficient scope to eliminate sinkhole activity as the cause of damage within a reasonable professional probability. Finally, the current statute also provides that no insurer may nonrenew any policy of property insurance based on the filing of claims for partial loss caused by sinkhole damage or clay shrinkage, as long as: (1) the total of such payments does not exceed the current policy limits of coverage for property damage; and (2) the insured has repaired the structure in accordance with the engineering recommendations upon which any payment or policy proceeds were based.

The first condition for denial requires the insurer to prove a negative – that is, to prove that the cause of the damage is *not* sinkhole activity. Further, as noted in Section VI of this report, there is some concern by geologists with the term “sinkhole activity” that may make the determination of a sinkhole loss more difficult.

The second condition for denial requires an investigation of sufficient scope to eliminate sinkhole activity as the cause of damage within a reasonable professional probability. The 2002 sinkhole study found that the average number of testing procedures used increased during the

sample period for both paid/compromised and denied claims, and that insurers made a general shift toward the use of more complex, and presumably more expensive, testing procedures. This may increase the loss adjustment expenses of these claims. The establishment of uniform loss adjustment procedures as discussed in Section VI of this report would serve to create a more consistent benchmark of adequate investigative procedures which may serve to smooth the costs associated with investigation. This could be mutually beneficial to all parties involved in that all insureds would more likely receive adequate and consistent claims handling and insurers or a sinkhole facility would have a protocol by which to operate that may increase the efficiency of the claims handling process. The result could be faster claims processing and a reduction in the costs related to disputes. As such, this could increase insurers' willingness to provide coverage as well as keep the coverage affordable.

The nonrenewal provision of the statute relates directly to the issue of continued availability of coverage by limiting the circumstances under which an insurer may nonrenew a property insurance policy based on the filing of claims for partial loss caused by sinkhole damage. As discussed in Section V, currently Citizens is not required to insure homes which have been deemed a total loss due to damage from the peril of sinkhole. In addition, in cases of partial loss, the home may be uninsurable if the repairs are not made in compliance with the recommendations of an engineer. The homeowner may later be able to obtain coverage if an engineer certifies that the repairs have been made and the home has been stabilized. Alternatively, a major insurer has filed a form that would provide limited coverage for cosmetic repairs but not pay for substantial repairs until after they are made.

B. STATUTES AFFECTING SINKHOLE LITIGATION

Two other statutes found in the Florida Insurance Code, though not specifically related to sinkhole coverage, may nonetheless affect the affordability and/or availability of sinkhole insurance through their impact on the potential costs of sinkhole-related litigation to the insurer. The relevant statutes are: (1) Section 624.155, F.S., Civil Remedy; and (2) Section 627.428, F.S., Attorney's Fees. These statutes are designed to protect the consumer in the event of a disputed claim. However, it is possible that in the case of sinkhole claims, the statutes could increase the potential costs of litigation with respect to bad faith and coverage of an insured's attorney's fees when a judgment is made against the insurer. In addition, the indirect costs of these statutes on the efficiency of claims handling and affordability and availability of coverage should be considered.

1. Section 624.155, F.S., Civil Remedy

Section 624.155, F.S., allows any person to bring a civil action against an insurer when that person is damaged by either: (1) a violation of specified statutory provisions by the insurer; or (2) the commission of certain prohibited acts by the insurer. The *pertinent* parts of Section 624.155, F.S., are given below:⁴³

624.155 Civil remedy.--

- (1) Any person may bring a civil action against an insurer when such person is damaged:
 - (a) By a violation of any of the following provisions by the insurer:
 1. Section 626.9541(1)(i), (o), or (x);
 2. Section 626.9551;
 3. Section 626.9705;

⁴³ For the complete text of Section 624.155, see Appendix O.

4. Section 626.9706;
5. Section 626.9707; or
6. Section 627.7283.

(b) By the commission of any of the following acts by the insurer:

1. Not attempting in good faith to settle claims when, under all the circumstances, it could and should have done so, had it acted fairly and honestly toward its insured and with due regard for her or his interests;
2. Making claims payments to insureds or beneficiaries not accompanied by a statement setting forth the coverage under which payments are being made; or
3. Except as to liability coverages, failing to promptly settle claims, when the obligation to settle a claim has become reasonably clear, under one portion of the insurance policy coverage in order to influence settlements under other portions of the insurance policy coverage.

Notwithstanding the provisions of the above to the contrary, a person pursuing a remedy under this section need not prove that such act was committed or performed with such frequency as to indicate a general business practice.

(4) Upon adverse adjudication at trial or upon appeal, the authorized insurer shall be liable for damages, together with court costs and reasonable attorney's fees incurred by the plaintiff.

(5) No punitive damages shall be awarded under this section unless the acts giving rise to the violation occur with such frequency as to indicate a general business practice and these acts are:

- (a) Willful, wanton, and malicious;
- (b) In reckless disregard for the rights of any insured; or
- (c) In reckless disregard for the rights of a beneficiary under a life insurance contract.

The statutory provisions relate primarily to unfair insurance trade practices, including unfair methods of competition and unfair or deceptive acts or practices. The prohibited acts for which civil actions may be brought against an insurer relate primarily to bad faith on the part of the insurer. The purpose of the statute is to encourage insurers to operate in good faith in settling claims and to provide appropriate damages to those injured when an insurer acts in bad faith.

The statute includes as a prohibited act “not attempting in good faith to settle claims when, under the circumstances, the insurer could and should have done so.” As a result of this language, bad faith related to the settlement of insurance claims is determined based on the circumstances of each case rather than on a defined standard that is applicable to all situations or behaviors. With respect to sinkhole claims, the absence of such a standard may result in increased litigation and costs.

Under the statute, an insured may collect any damages resulting from the insurer’s failure to act in good faith, including certain types of damages that would not be available for breach of contract and in amounts that exceed policy limits. The insurer also is liable for court costs and reasonable attorney’s fees incurred by the plaintiff if the insurer does not prevail in the case. In addition, punitive damages are a possibility if the insurer’s acts giving rise to the violation: (1) occur with such frequency as to indicate a general business practice; and (2) are willful, wanton, and malicious or in reckless disregard for the rights of any insured. If the uncertainty with respect to the claims handling is too high and associated costs are too great, the availability of coverage may be reduced.

2. Section 627.428, F.S., Attorney’s Fees

Under Section 627.428, F.S., a court may order an insurer to pay reasonable attorney’s fees or compensation to the insured’s attorney when the judgment is against the insurer. The statute reads as follows:

627.428 Attorney's fee.--

(1) Upon the rendition of a judgment or decree by any of the courts of this state against an insurer and in favor of any named or omnibus insured or the named beneficiary under a policy or contract executed by the insurer, the trial court or, in the event of an appeal in which the insured or beneficiary prevails, the appellate court shall adjudge or decree

against the insurer and in favor of the insured or beneficiary a reasonable sum as fees or compensation for the insured's or beneficiary's attorney prosecuting the suit in which the recovery is had.

(2) As to suits based on claims arising under life insurance policies or annuity contracts, no such attorney's fee shall be allowed if such suit was commenced prior to expiration of 60 days after proof of the claim was duly filed with the insurer.

(3) When so awarded, compensation or fees of the attorney shall be included in the judgment or decree rendered in the case.

The purpose of this statute is to protect a successful claimant from the potentially onerous legal costs of pursuing legitimate claims against an insurer. While an insurer faces the risk of incurring responsibility for the legal expenses of a winning claimant, the reverse is not the case.

3. Evaluation of Statutes

Taken together, the Civil Remedy and Attorney's Fee statutes are intended to level the playing field between insureds and insurers, as insurers typically have much greater financial and legal resources at their disposal. However, these statutes may put insurers in a position in which the most cost-effective method of dealing with sinkhole claims is to simply pay them, rather than risk a judgment for bad faith damages and claimant attorney's fees after already incurring the considerable costs associated with adjusting these claims. As such, this may result in an increase in the cost of coverage.

Some of the data discussed in Section V may indirectly support the proposition that insurers may select the most cost-effective way of settling sinkhole claims. The mappings of sinkhole loss costs and sinkhole locations provided in Appendix M show that some claims payments for sinkhole damage appear to have been made in areas with no known sinkholes based on the USGS and FGS data. While several explanations for this observation are available,

one is that insurers are paying claims for damage that may have been caused by a peril other than sinkhole in order to minimize their exposure to allegations of bad faith.

Potential options for dealing with the issues as discussed in other areas of this report include altering the wording of the statute that defines sinkhole activity to remove any ambiguity and developing some uniform adjustment procedures for handling sinkhole claims. These changes may serve to reduce disputes, thereby reducing allegations of bad faith. However, the effects of any such changes must be weighed against their potential impact on the ability to achieve the statutory goals of encouraging good faith on the part of insurers and compensating those injured by an insurer's bad faith actions.

IX. CONCLUSIONS AND RECOMMENDATIONS

This report provides a thorough review of single-peril residual market facilities and the Florida statutes related to sinkhole as well as a detailed analysis of insured sinkhole claims in the state of Florida for the period 1997 through 2003. Based on the analyses presented in this report, a series of recommendations are provided that may help to address the worsening sinkhole exposure problem in Florida.

A. NON-FACILITY-RELATED RECOMMENDATIONS

Regardless of the decision to create a Florida Sinkhole Insurance Fund, actions in the following areas should significantly help to mitigate the impact of the sinkhole peril in the state of Florida. These issues relate to: (1) potential statutory changes; (2) development of uniformity in the adjustment process; (3) clarifications and reform of the issues related to the coverage of sinkholes; and (4) the creation of systems for data warehousing and sinkhole-related training, communication, and education services. In considering appropriate measures, the fact that for most individuals, their home is their single largest asset, should be a paramount consideration.

1. Potential Statutory Changes

Potential Amendments to Section 627.706, F.S., and Section 627.707, F.S. One issue highlighted by representatives of the geoscience and engineering communities is a need to address statutory definitions in these sections. A discussion of these issues can be found in Section VI of this report. The focus is to remove ambiguity in the current definitions and better reflect the geological event that is covered. This should help to remove uncertainty in the identification of sinkhole losses and hence reduce the frequency of claims disputes. The proposed changes should be considered in conjunction with the creation of a uniform standard

for the adjustment of sinkhole claims as discussed below. In combination, the changes should result in a more consistent determination of sinkhole losses.

Alterations to Alternative Dispute Resolution Statutes. While the suggestions above may reduce the total number of cases in which there are claims disputes, there are several options that can be used to potentially increase the percentage of disputes that can be settled without litigation. The utilization of experts in mediation or arbitration could be incorporated into the ADR process either by requiring that all panel members have specialized expertise or that the “neutral” arbitrator be an expert. A second option, which could be adopted with the first option or independently, would be to use non-binding arbitration, with appropriate incentives to both parties to resolve the dispute in good faith. The issues of when attorney’s fees and damages for bad faith are appropriate should be considered. A final ADR option could be to use an administrative remedy in which disputes are filed with the Office of Insurance Regulation. This entity would make findings a fact and conclusions of law and enter an order. This is the process utilized in Kentucky.

2. Development of Uniformity in the Adjustment Process

Of particular concern is the lack of uniformity in the current investigation and claims adjustment process. The creation of a uniform approach will achieve several purposes. First, the application of uniformity will increase the efficiency with which claims are handled, thus reducing the time to investigate and remediate claims. Second, uniformity will provide consistency in claims handling and improve communications with claimants, which should help to reduce the number of disputes. This can be done by the facility or another entity that employs

or contracts with specialized geologist, engineers, and adjusters. To effectively implement these changes, a concerted effort will have to be made to work with the geoscience and engineering communities. This can be done through a centralized facility such as potential sinkhole facility or through a third party such as the Florida Geological Survey, which has specialized knowledge in the geological issues needed to identify and remediate sinkhole damage.

3. Coverage Issues Related to Sinkholes

One issue for consideration relates to whether all coverages in the homeowners' policy should be provided under the sinkhole coverage or whether only Coverage A (Dwelling) and Coverage B (Other Structures) losses should be covered. As discussed in Section V of this report, it is plausible that all Section I coverages could be provided for cover collapse claims, while only coverages for the dwelling and other structures could be provided in cases of cover subsidence sinkhole claims. This is due to the nature of the damage caused by the respective types of sinkholes.

A second area for consideration relates to the payments for the repairs and requirements for repairs. One potential option is to only make payment after remediation is completed based on the recommendations of a certified engineer. By only making payment when remediation efforts are complete, the insurer can minimize the potential for moral hazard on the part of the insured in which the insured accepts payment for a sinkhole loss and does not make proper repairs. This practice also may mitigate future claims by the insured for related damage.

A third area for consideration is whether the structure will still be insurable for the peril of sinkhole if proper remediation steps are made. Given the nature of the losses, it is suggested

that the structure not be considered insurable if proper remediation is not made. This policy is similar to the current policy used by Citizens.

A final area of consideration involves whether coverage will be available in all parts of the state. Further, if the coverage is available statewide, will it be mandatory or optional for the insured? These issues will obviously impact both the pricing of the coverage as well as the potential size of a sinkhole insurance or reinsurance facility, if established. As discussed in Section VIII of this report, the potential for adverse selection increases if sinkhole coverage is optional. The fact that no insurer in Florida has adopted a policy that allows consumers to reject sinkhole coverage offers some evidence of the potential for adverse selection.

4. Data Warehousing and Other Non-Insurance Services

In addition to the development of a uniform identification and claims adjustment process, it also is important to have an accurate and complete database of sinkhole exposures and losses in the state of Florida. Currently, this is done on an *ad hoc* basis by the Florida Geological Survey. Due to budgetary issues and the lack of requirements for filing of information, the database is incomplete. A consistent and complete database would help in the evaluation of sinkhole claims as well as in the creation of fair and adequate rating of the peril by private insurers or a sinkhole facility. Mandatory reporting and verification of data will be essential to the facility's success.

It is suggested that this function be housed in an organization with an understanding of the geotechnical issues related to sinkholes. This will not only aid in the proper development and maintenance of the database and materials, but it also will streamline the function of a potential sinkhole facility and may provide a more consistent and cost-effective handling of these

services. Further, there may be some benefit to having the same organization or group aid in the development and implementation of needed training, communication, and education materials. By housing all of these non-insurance services in a single location, economies of scale can be realized and duplication of efforts can be minimized. Additionally, if the organization has significant knowledge related to sinkholes and connections to the geological community, start-up costs could be reduced.

B. FINANCING ALTERNATIVES

While the suggestions above will help to mitigate the costs currently associated with the peril of sinkholes in Florida, attention still must be paid to the proper financing mechanism. There are several options for coverage of the sinkhole peril. The first option is to maintain coverage for the sinkhole peril in the current homeowners' policies and have insurers develop a separate rate for the peril. The second option also would require insurers to maintain coverage for sinkholes in the homeowners' policies, but a sinkhole reinsurance facility would be created to reinsure and adjust these claims. The third option would shift coverage for sinkholes from insurers to a sinkhole insurance facility. The advantages and disadvantages of each approach are discussed below.

1. Proper Rating for the Peril of Sinkhole in the Homeowners' Policy Forms

Applying the changes suggested in the prior section with regards to the definition of sinkhole, uniform adjustment measures, alternative dispute resolution, and coverage options would be useful in developing an adequate rate for sinkhole coverage by removing some of the cost and uncertainty of adjusting sinkhole claims. Information on the location, frequency, and severity of sinkhole losses also could be useful. With these changes, it is possible that the sinkhole problem could be managed without the creation of a sinkhole facility. The advantage of this approach would be that the state would not incur the start-up costs and other expenses associated with establishing a facility.

However, certain issues may still exist. One is that the application of uniform adjustment procedures may be more difficult in this framework given the number of insurers in the state. Variations in policy forms also may impact the way in which the sinkhole peril is covered in

terms of reasonable repairs to the structure and the repairs to land. Further, this option may affect the overall availability of homeowners' insurance from the private market in the event that insurers do not want to offer this coverage, even if they are allowed to price for the peril.

2. The Establishment of a Reinsurance Facility for the Peril of Sinkhole

Another option that may mitigate the problems of property insurance availability in the state would be to rate for the sinkhole peril separately and establish a sinkhole reinsurance facility. The facility, either housed in an existing entity or under the umbrella of a state agency such as the State Board of Administration, would be responsible for the payment of sinkhole claims. These claims would be financed through premiums ceded to the facility by insurers.

The facility also could coordinate the adjustment of sinkhole claims, which may reduce potential claims-related disputes. This centralized claims handling also would achieve the goals described earlier of a more consistent and efficient processing of claims. A further benefit of a reinsurance facility is that the insured still has a single contract with a given insurer rather than having to deal with a separate insurer for sinkhole coverage. This saves on administrative costs as well as makes the system easier for the insured.

Depending on the decisions regarding the placement and governance of the facility, the facility may be exempt from federal taxation. As evidenced by the experience of some of the mine subsidence reinsurance facilities, with proper management and pricing, the facility should be able to be self-sufficient based on premiums ceded from the primary insurers.

The state would incur some start-up costs in establishing this facility. However, based on the placement of the facility, the added administrative costs may be reduced if some of the non-insurance functions such as payroll and employee administration could be outsourced. Similarly,

the non-insurance education and consulting-related functions also could be placed in another organization to minimize the overall size of the sinkhole reinsurance facility and to take advantage of the sinkhole expertise of that organization.

3. The Establishment of a Direct Writer for the Peril of Sinkhole

The final option would be to allow insurers in the state to exclude coverage for the peril of sinkhole from existing policies. In this scenario, insureds would then obtain coverage from a direct writer. This method also should protect the availability of coverage in the Florida homeowners' market as well as remove insurers from costs associated with sinkhole claims. However, this method is not recommended. After evaluation of the operation of other single-peril facilities, a reinsurance facility appears to be a more cost-effective solution.

X. LIST OF ACRONYMS AND ABBREVIATIONS

ADR	Alternative Dispute Resolution
BMSIUA	Ohio Mine Subsidence Insurance Underwriting Association
Cat Fund	Florida Hurricane Catastrophe Fund
CEA	California Earthquake Authority
Citizens	Citizens Property Insurance Corporation
DNR	State Department of National Resources
FAIR Plan	Ohio Federal Access to Insurance Requirements Plan
FGS	Florida Geological Survey
FRPCJUA	Florida Residential Property and Casualty Joint Underwriting Association
FWUA	Florida Windstorm Underwriting Association
GIS	Geographic Information Systems
HHRF	Hawaii Hurricane Relief Fund
Illinois Fund	Illinois Mine Subsidence Fund
Indiana Fund	Indiana Mine Subsidence Fund
IRS	Internal Revenue Service
Kentucky Fund	Kentucky mine Subsidence Fund
NAAMLPL	National Association of Abandoned Mine Land Programs
NFIP	National Flood Insurance Program
Ohio Fund	Ohio Mine Subsidence Insurance Fund
OIR	Office of Insurance Regulation
OSMRE	Office of Surface Mining Reclamation and Enforcement
Pennsylvania Fund	Pennsylvania Coal and Clay Mine Subsidence Fund
SBCCI	Southern Building Code Congress International
USGS	United States Geological Survey
West Virginia Fund	West Virginia Mine subsidence Fund

XI. REFERENCES⁴⁴

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⁴⁴ Information for this report was obtained from a variety of sources, including state- and facility-maintained websites, annual reports, and publicly available brochures and publications. Within each respective section of this report, references are made to the appropriate appendices that contain full copies of the materials referenced.