CoreLogic®

Hazard Risk Solutions

Sewer Backup Risk Score

Mitigate Risk from Sewer Backup & Basement Flooding

Benefit Your Bottom Line

Backed up sewers and flooded basements can wreak havoc on a home, causing thousands of dollars in damage to floors, walls, furniture and electrical systems. Sewer lines in particular can back up during heavy rainfall as a result of an aging sewer system, through combined storm and sewer lines, blockages in the sewer line from root intrusion, from FOGG (fats, oil, grease and grit), or debris. It is estimated that over 500,000 claims occur in the U.S. annually, with average claims rising three percent every year[1]. Sewer endorsements are relatively inexpensive to purchase, and the marketplace needs a better tool for assessing sewer backup risk.

Through Sewer Backup Risk Score, CoreLogic® can assess the risk potential for sewer backup and also basement flooding, as a Basement Flood Risk Score component is also included to address basement flooding, which can occur during wet- weather events from cracks in the basement walls or floor, masonry joints and from surface flooding through window wells. All of these events can

Example of risk transfer.

Source: CoreLogic 2015.

[1] Insurance Information Institute, Sewer Backup, 2014.

Key Features:

- Utilizes Combined Sewer Areas, Flood Risk Score, Flash Flood Risk Score, Elevation, Rainfall Frequency, Ground Depressions and Estimated Sewer Age
- Integrates property data, street analysis and slope to evaluate sewer age and probable risk intersections along the sewer line
- Provides a 1–100 score and risk rating from
- Very Low to Extreme

Key Benefits:

- Helps insurers determine whether to write or continue to write endorsements for sewer backup and basement flooding risks
- Inputs are based on CoreLogic Flood Risk Score, Flash Flood Risk Score and Combined Sewer Area products. Works well geospatially with existing CoreLogic products.
- Can assist insurers with identifying potential sewer backup and basement flooding risks

also result in costly claims. Mitigating risks from both sewer backup and basement flooding is beneficial to an insurer's bottom line, and CoreLogic can provide sewer backup and basement flood risk potential scores to clients for whom the insurer wishes to underwrite endorsements and ratings for better mitigation. Sewer Backup Risk Score and Basement Flood Risk Score can be integrated into the underwriting process to enhance the understanding of the potential for risk.

More Robust Flooding Insight

Sewer Backup and Basement Flood Risk Scores from CoreLogic build upon our existing robust offerings including Flash Flood Risk Score, Flood Risk Score, Combined Sewer Area and proprietary geospatial datasets to identify potential risk for sewer backup and basement flooding. Both scores deliver increased insight to potential risk that can be incorporated the underwriting process when writing endorsements.

Over $1B in Flood Losses in Detroit in 2014

In August 2014, the Detroit Metro area received record rainfall which led to massive flash flooding, and the area incurred over one billion dollars in flood losses. In a 10-page letter to President Obama for the disaster assistance request, Michigan Governor Rich Snyder explicitly emphasized the significance of the impact of sewer backup and basement flooding within their community. This underscores that urban flooding issues have become a major contributor of hazards occurring in U.S. metropolitan areas, and that analytical tools for urban flooding risk assessment on sewer backup and basement flooding are a necessity.

CoreLogic leverages its geospatial datasets such as sewer pipe age, ground depression areas, flood risk score, flash flood risk score, combined sewer, enhanced rainfall, soil infiltration, forest coverage, and land use to determine both the Sewer Backup Risk Score and a Basement Flood Risk Score.

The Methodology Up Close

Knowing the Flood Risk Score and Flash Flood Risk Score for a given property location is extremely important to identify potential risk of sewer backup and basement flooding, but there are other factors that need to be evaluated to assess potential for sewer backup and basement flooding too.

"Risk transfer" is one of those factors, and with Sewer Backup Risk Score, CoreLogic uses geospatial engineering to identify risk transfer locations where the sewer backup can begin and eventually flow to the property location.

Another factor is the approximate age of the main sewer line, as the average lifespan of sewer pipe is approximately 50 years. As a pipe ages, it is more prone to cracks, collapse and blockage from FOGG and root intrusion. The age of the sewer line also provides insight into its construction material. For example, prior to 1970, sewer lines were installed primarily using clay or cast iron pipe which can be more prone to cracks, collapse and root intrusion than Polyvinyl Chloride (PVC). Both clay and cast iron are also not as flexible as PVC, resulting in breaks and disconnected joints from water pressure and seismic activity.

CoreLogic property structure information is utilized to assess both the age of the sewer line as well as the age of the basement. As the foundation and masonry joints age, there is greater likelihood for the development of cracks in walls and floors, and also a breakdown of floor joints, causing water infiltration and possibly basement flooding due to the hydrostatic pressure that occurs when underground water accumulates against the basement walls and floor joints.

Let Us Score Your Risk

Sewer backup coverage is relatively inexpensive to purchase, ranging from annual premiums of $40–$160 and claims can be easily be in excess of $25,000 or more[2]. Prior to writing an endorsement for sewer backup or excess flood, insurers need the ability to assess the potential risk for a future claim. They must also be able to decide whether to offer an endorsement or to ensure that the proposed premium is in line with the risk assessment. Let us score the risk for you.

- The basement of St. Francis Church in Naugatuck, Conn. was severely damaged in the heavy rains on Aug. 1, 2012. During the storm, water backed up into the basement and destroyed everything in the church hall, which also served as the cafeteria for the St. Francis-St. Hedwig School.
  - Sewer Backup Risk Score: **51**
  - Sewer Backup Risk Rating: **High**
- Restaurant basement in historic Ellicott City, Md. flooded after torrential rains hit the area on Sept. 7, 2011.
  - Basement Flood Risk Score: **93**
  - Basement Flood Risk Rating: **Extreme**

Seamless Ordering & Delivery

CoreLogic offers several options for insurers to access and order our industry-leading natural hazard risk scores and solutions which include:

- **RiskMeter Online™:** An on-demand insurance platform delivering natural hazard risk data that empowers underwriters, agents and brokers to make quick and accurate property risk determinations.
- **Xiance®:** An ordering and delivery platform with positionally accurate tax jurisdiction and natural hazard solutions through the web—to help you make smarter business decisions.
- **Spatial Web Services:** An interface that delivers a set of services and tools that allow you to easily integrate natural hazard risk, tax jurisdiction, parcel and geocoding data directly into your applications. Using a RESTful API, you can now stream our geographic and natural hazard risk data to a variety of platforms and programming languages including Java, .Net and PHP.

The Right Solution for Better Coverage

Insurers want to provide the best coverage for their clients, while only writing properties that are good risks for their books of business. Many also don't realize that they are covering losses that could be more clearly understood with the right natural hazard risk models. Whether using an aggregated or by-peril rating approach, CoreLogic can help you understand storm, fire, land-based and other risks at the most granular level possible.

[2] California Sanitation Risk Management Agency, 2004.

Why Consider CoreLogic?

Increasingly, catastrophic events are challenging the P&C insurance industry to revisit existing catastrophic risk management and loss adjustment strategies by improving the overall understanding of all natural hazards. CoreLogic is dedicated to the science of understanding natural hazard risk and is focused on delivering decision support data and insights to the insurance industry. With a staff of Ph.D.-level scientists and engineers, we have taken risk assessment a step further by developing a proprietary methodology that enables a more granular level of risk management control and reporting. Catastrophe Risk Management from CoreLogic offers a comprehensive look at risk by evaluating probable events and verifying current- and post-event impacts.

For more information, please call 855-267-7027 or email us at hazardrisk@corelogic.com.

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