2017 Earthquake Data Call Report

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Executive Summary

Washington State has documented earthquake risk, but prior to this study there was no data showing how many properties are covered by earthquake coverage. In 2017, Commissioner Kreidler directed a survey of insurers in Washington State. This study found:

- Approximately 21% of all insured structures in Washington have earthquake coverage.
- The market has many insurers and policies are available to buy.
- 90% of the exposure is west of the Cascades and the commercial and residential properties in this area are more highly insured than east of the Cascades.
- Residential coverage rates for earthquake insurance came in higher than predicted, at 11.3%.
    - Counties west of the Cascades have a slightly higher overall coverage rate at 13.8%, as compared to eastern counties which have just a 1.7% overall coverage rate.
    - Residential earthquake deductibles are generally between 10% and 15%.
    - The top two insurers sell 33.9% and 18.1%, respectively, of all policies with earthquake coverage and represent more than 50% of the overall exposure.
    - Homes with earthquake insurance are 65% more expensive than the average home, which indicates a potential affordability issue for owners of more modest homes.
- Commercial coverage rates for earthquake insurance statewide is 43.2%
    - Of commercial earthquake policies, 83.4% are west of the Cascades.
    - Three companies sell 49.5% of all policies, while just one insurer holds 52.1% of the insured exposure.
    - Commercial properties with earthquake coverage were 11% more valuable than the typical commercial property.

Introduction

Because of our geologic setting over many active fault lines, Washington state is recognized as one of the highest-risk areas in the world for earthquake events. Earthquakes occur here nearly every day; most are too small to cause damage or even be felt. But as recent history demonstrates, the risk of a larger earthquake is ever-present, with the potential for extensive damage to property and infrastructure.

For example, on Feb. 28, 2001, a 6.8 magnitude earthquake struck the southern Puget Sound region, with an epicenter northeast of Olympia. The Nisqually quake resulted in more than 400 injuries and significant property damage. Much of the damage occurred close to the epicenter or in more distant unreinforced concrete or masonry buildings. In total, the Nisqually quake resulted in approximately $305 million of insured losses, and $2 billion in damage statewide. In 1999, the slightly smaller 5.8 magnitude Satsop earthquake caused $8.1 million in property damage (including the repair and retrofit of the historic courthouse in Montesano).

We continue to learn more about the risk of our position on the Cascadia Subduction Zone, which is predicted to result in a magnitude 9.0 subduction zone earthquake. Comparison with similar subduction zone fault earthquakes around the world underscore the enormous potential impact of this event. For example, the cost to rebuild Christchurch, New Zealand, is estimated at over $33.9 billion after the February 2011 earthquake.

As Washington state's Insurance Commissioner and Chair of the National Association of Insurance Commissioners' Climate Change and Global Warming Working Group, Mike Kreidler has acknowledged the need to better prepare the state for disasters. Insurance coverage, of both residential and commercial property, is a key component to recovery from an earthquake event. As part of his effort to encourage Washington's resiliency to earthquake events, he has directed an assessment of commercial and residential earthquake coverage throughout the state. The purpose of this assessment was to provide baseline data about the coverage[1] rate of earthquake coverage currently purchased in Washington, and to assess the need for improvement.[2]

In October 2017, the Office of the Insurance Commissioner issued an earthquake insurance data call to 108 property and casualty insurers participating in Washington's homeowner's and earthquake markets during the 2016 plan year. We received completed responses from 240 companies (many from non-admitted insurers selling coverage in the surplus lines market). In total, the data we received represents more than 80% of the total earthquake insurance market in Washington.

Based on analysis of the data received, we are able to make the following observations and conclusions.

Washington state has a diverse earthquake insurance market with a broad choice of insurers. Although the highest population counties have the largest number of insurers, policies are available across the

[1] The "coverage rate" of an insurance product is the percentage of people who purchase a type of coverage.
[2] This data call did not ask for premium cost or demographics of the insured. Rather, we focused mainly on the property value and location of insured properties.

state. Insurers, in general, do not appear to specialize the offering of coverage in certain regions, with more than 22 insurers offering policies in every county in the state. The commercial earthquake market is dominated by surplus line insurers, but more than 100 insurers offer policies in the state.

There are a few strong market leaders in both the commercial and residential market. In the commercial market, one insurer (a surplus line insurer) covers 52.1% of the insured exposure. Three companies issue 49.5% of all the policies in the market. Similarly, in the residential market the top two insurers cover more than 50% of overall risk exposure.

The coverage rate of residential earthquake insurance is unexpectedly strong; 11.3% of all residential policies in the state carry earthquake protections. While Washington's coverage rate does not adequately mirror the projected risk, our rate can be compared with other high-risk states such as California, which has a coverage rate of approximately 10%. Residential earthquake deductibles are generally in line with the industry standards of between 10% and 15%. Almost all the participating residential insurers offered coverage as a policy rider.

Property value is a strong predictor of which properties are covered by earthquake insurance. Homes with earthquake insurance are 65% higher in value than the average insured home. Commercial properties with earthquake coverage were 11% more valuable than the typical insured property. This is true even though the cost of earthquake insurance is generally based on the value of the property (which results in less expensive insurance for less expensive property).

And, as expected based on the higher documented risk of earthquake, counties west of the Cascades buy more insurance. In Western Washington, the residential coverage rate is 13.8%. Counties west of the Cascades have 18 times as many policies as in Eastern Washington. Of commercial earthquake policies, 83.4% are in Western Washington.

Who has property insurance?

This data call focused mainly on the property value and location of properties, meaning the demographics of the insured are not fully represented in the submitted model. However, most insurers seem to base rates on the characteristics of the property more so than on the characteristics of the individuals applying. As this survey specifically distinguished between rental properties (included in commercial reporting) and owner-occupied structures (included in residential reporting) OIC assumed that the insured housing value is directly related to income. Similarly, for commercial structures the OIC assumed that more expensive structures are held by companies with greater revenue. This correlation is not quite as strong given that OIC requested structure information, and commercial interests, such as property management companies and retail chains, will generally have a large number of inexpensive properties despite being relatively high earners.

Residential

Statewide

Insurers in Washington state reported the average insured residential property was covered for $469,000. In contrast, the average property in our sample was insured for $512,000, indicating a skew toward more expensive properties. This is not surprising given that King County represented 27.7% of our sample, at an average insured value of $687,000. However, the median home value in Washington during the sample period was only $323,000 (Rumstead). On a county-by-county basis, the insured properties in this sample exceeded the median home values by 105%, with some rural counties exceeding the county average by over 300%.

By county

Most homeowner's insurance policies cover "structure and contents" under a single policy. This includes not only the structure appraised value but also an "excess" value, which accounts for differences in replacement costs and new construction costs, as well as additional contents coverage for items destroyed during a loss that are considered personal property and not part of the structure. The value of contents and excess coverage varies by insurer but generally falls at about 20% to 40% above the appraised value of the property.

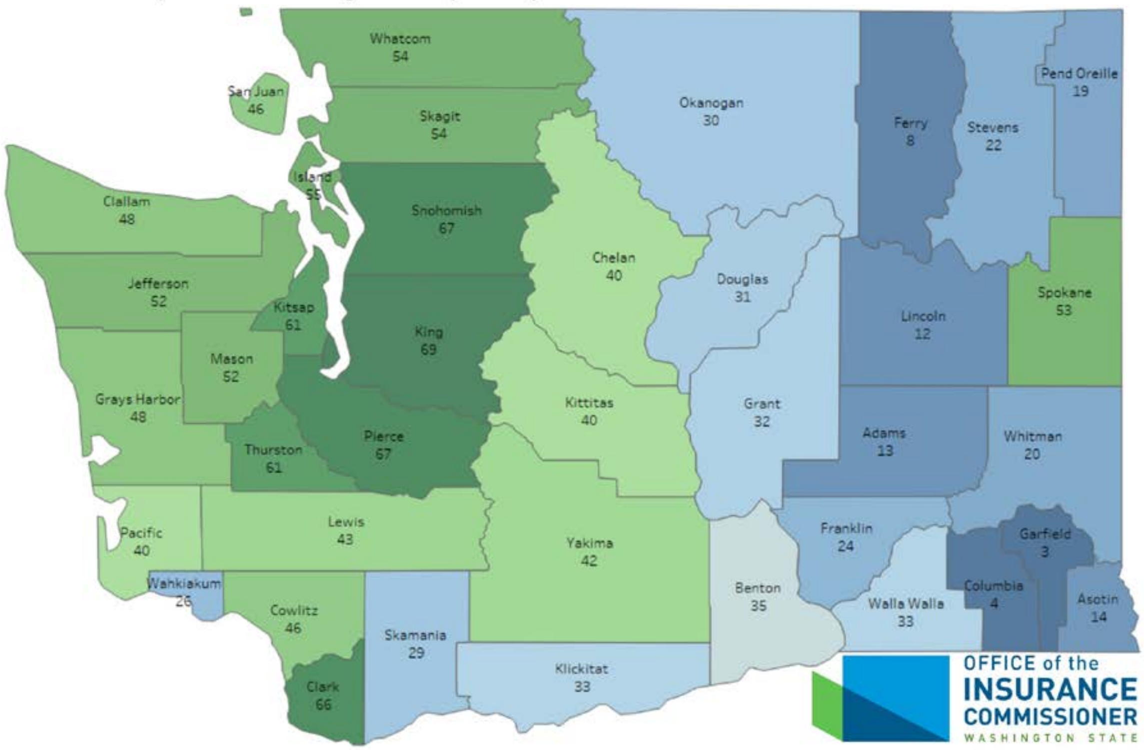
In the data collected in this call we observed a 45.2% difference between the average of averages (AoA, the average value of all county averages) and a 58.5% difference in structure average (by policy coverage) compared to the median home value. Based on county averages, four counties in this data set could be argued to have close to representative coverage, with coverage amounts for a general policy based on the difference between insured value and median property prices. In Jefferson, King, Snohomish, and Whatcom counties the difference in insured value and median home price is less than 30%. This indicates that for much of the state the covered residential properties are on average more expensive structures than the average residential property on a county-by-county basis.

Insurer characteristics

At the insurer level, only 17 of 92 insurers that submitted residential data covered structures with an average coverage amount above the insurer AoA. This is indicative of a distribution of house prices skewed toward lower values in some areas of the state. This is consistent with the generally lower value of properties in Eastern Washington, but also indicates that there may be some concentration of policies for higher-priced homes for a few insurers. Examining the insurer average property coverage makes this distribution even more distinct. Five insurers stated that their average residential coverage amount exceeded $1 million while nine insurers covered an average structure value of under $100,000.

However, unequal distribution of policy coverage does not imply that any particular county lacked access to choice for property insurance. This sample contained 35 or more companies with at least one active policy in every county, and a median of 63 companies with policies per county statewide.

Number of companies offering earthquake policies — Residential



The relatively even distribution of insurers offering policies, combined with the relatively extreme variance in coverage averages between companies, indicates that property specialization based on value is occurring in the residential market.

Commercial

Statewide

Insurers in the state of Washington reported an average insured commercial property was covered for $6.5 million. In contrast, the average property in our sample was insured for $3.1 million. As with residential policies, King County represented the largest portion of policies reported, as 29.4% of our sample with an average insured value of $5.2 million. The commercial property market is significantly more diversified than the residential market, making an accurate median value unavailable. Sales prices are also not of particular use as many commercial buildings are purchased as land transactions, with customized structures added later.

By county

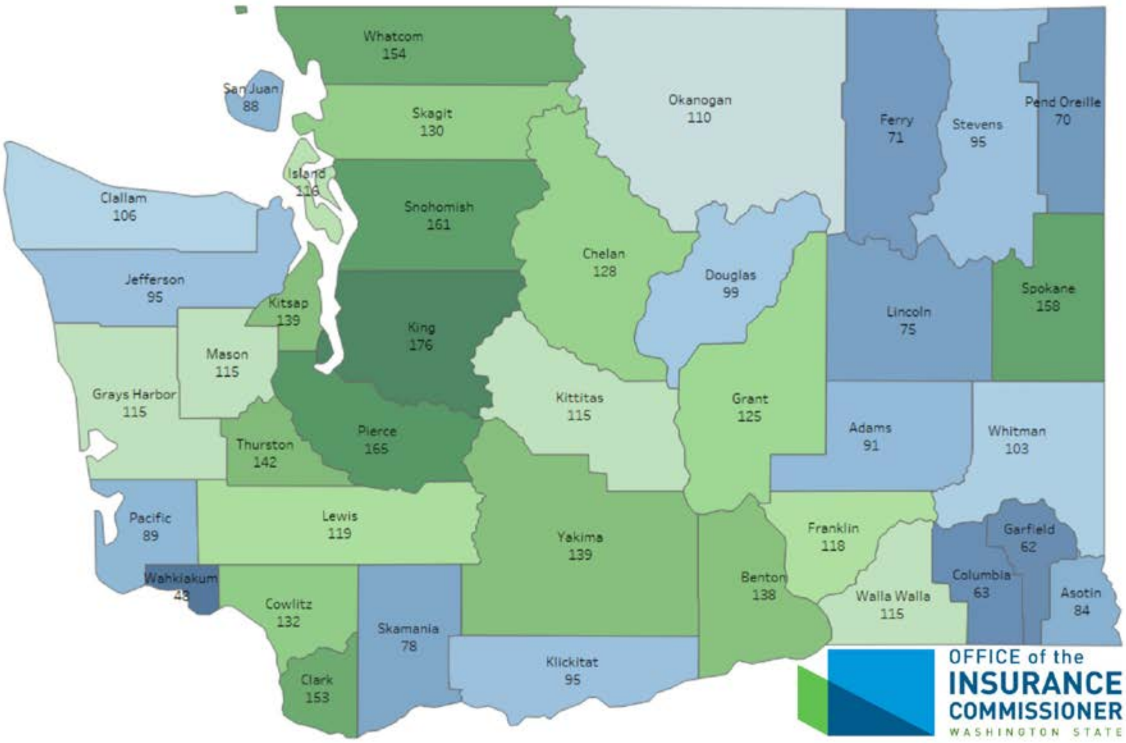
Unlike the residential market, the commercial market does not have a standard type insured structure. While residential properties are generally single-family homes, commercial properties range from high rises in King County, to massive farms in Eastern Washington, to corner stores spread across the state. This means that comparing counties is exceedingly difficult as each county features a different mix of structures. Similarly, it is difficult to draw conclusions for the types of properties insured in this market without a valid median property price to compare to it. However, the data does distinguish between areas with large industry (King, Pierce, and Clark counties) and those lacking industry (Island and San Juan counties) based on the average value of insured properties in the county. However, more diversified economies such as Thurston and Spokane counties are impossible to classify based on available data.

Insurer characteristics

Insurers selling in the commercial market most often sell policies covering structures with a value below the data average. For both AoA and county average values, less than 25% of insurers held exposure above the group averages. This again indicates a skew toward lower value structures. This skew is exacerbated by three companies whose average coverage value exceeds $100 million, which is more than three times the average value of the next highest average value company. This is clear evidence of specialization by property value.

Like the residential market, the commercial market provides for a large selection of insurers in every county in the state. No county had less than 48 insurers with active polices in 2016, and no county had more than 91% of the 194 insurers included in the survey with commercial lines with active policies during the period.

Number of companies offering policies — Commercial



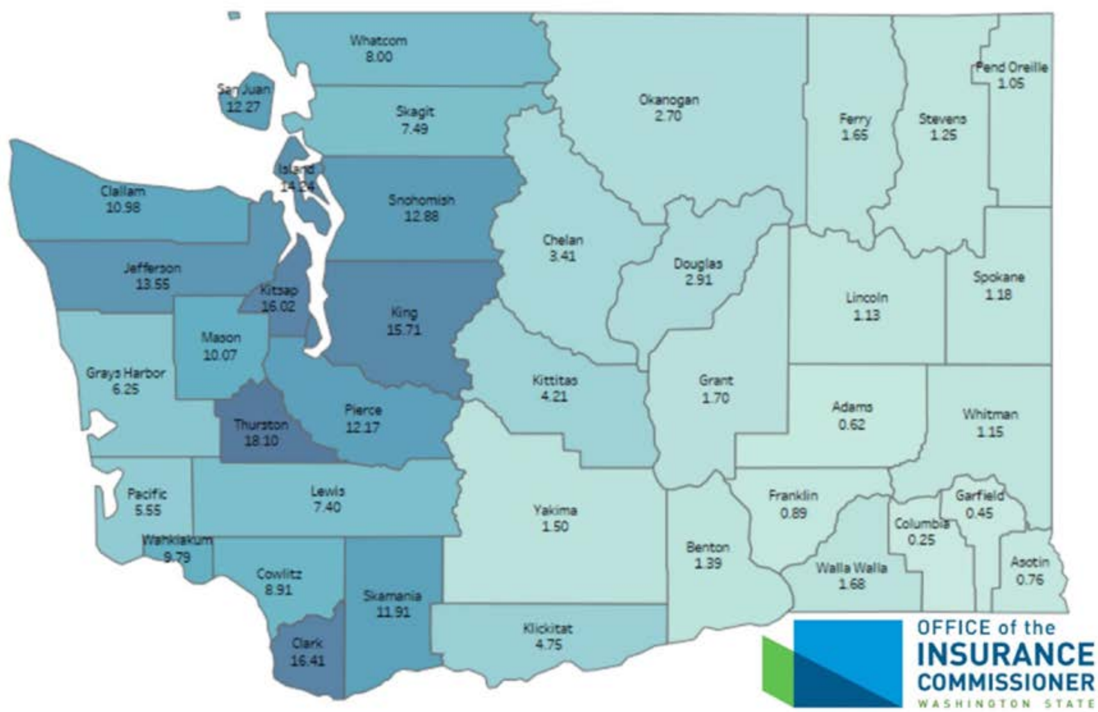
Who has earthquake coverage?

The standard coverage policy specifically excludes damage from earthquakes. While a sizeable number of homeowners and businesses have coverage A policies, relatively few have earthquake coverage. In this dataset, approximately 21% of all insured structures in Washington have some sort of coverage for earthquake related damage. However, this coverage rate is higher for commercial properties and is unevenly distributed across the state.

Residential

The residential market for earthquake coverage is driven by an increased risk for earthquakes in Western Washington, but policies for this type of coverage are available statewide. Overall, 11.3% of all residential policies in this data set have some type of earthquake coverage. Western Washington counties have a slightly higher overall coverage rate at 13.8%, especially compared to Eastern Washington counties which have just a 1.7% coverage rate. The coverage rate in Western Washington is led by Thurston County, with 18.1% of policies covering earthquake damage, followed by Clark and Kitsap counties at a rate of 16.4% and 16%, respectively. The lowest coverage rate in the state is Columbia County, where just .02% of policies have earthquake coverage.

Percentage of policies with earthquake coverage — Residential



Commercial

The commercial market is primarily covered for earthquake by surplus line companies that sell earthquake policies as stand-alone products. As such, some commercial structures may be double counted as having both a policy with earthquake and without earthquake coverage. This data set also suffers from a selection bias as we received a much larger number of responses from surplus line insurers than admitted insurers in this market.

Even with these caveats, businesses in general seem to be more risk adverse than homeowners in Washington state. Statewide, 43.2% of policies in our data have some sort of earthquake coverage. Like in the residential market, the Western Washington commercial market has a slightly higher rate of coverage at 45.4% compared to 27.5% in Eastern Washington. Unlike the residential market, the counties with the highest coverage rate are also some of the smallest with Skamania, Island, Kitsap, Wahkiakum, and Pend Oreille counties each boasting a greater than 55% coverage rate. Even the much larger King County, which represents 28.1% of all policies in the commercial market, has a 45.2% coverage rate.

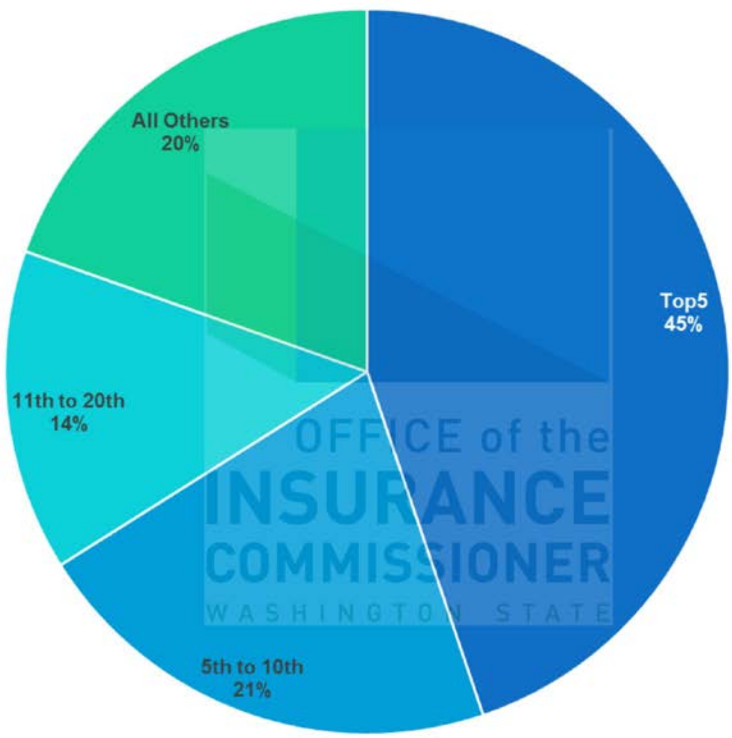
Who offers earthquake coverage?

The earthquake market is competitively distributed among dozens of insurers, with a small number of insurers holding larger market shares. This is true in both the residential and commercial markets. However, in the commercial markets the insurers are heavily represented by surplus line (non-admitted) insurers while the residential market is almost exclusively comprised of admitted insurers. This discrepancy indicates that the two markets operate in a fundamentally different way. The methods which insurers offer coverage is important to this distinction.

Market share

In general, a few residential insurers dominate the overall number of policies offered in both markets. In our data only three companies represent more than 5% of the market (combined residential and commercial), but these top three companies represent a larger market share than the next 12 largest companies by number of policies. The largest insurer represents just under 17% of the market while the top 30 insurers represent only 81.4% of the market. In response to OIC's data call, 78% of all admitted insurers and every surplus line insurer indicated that they covered at least one property for earthquake.

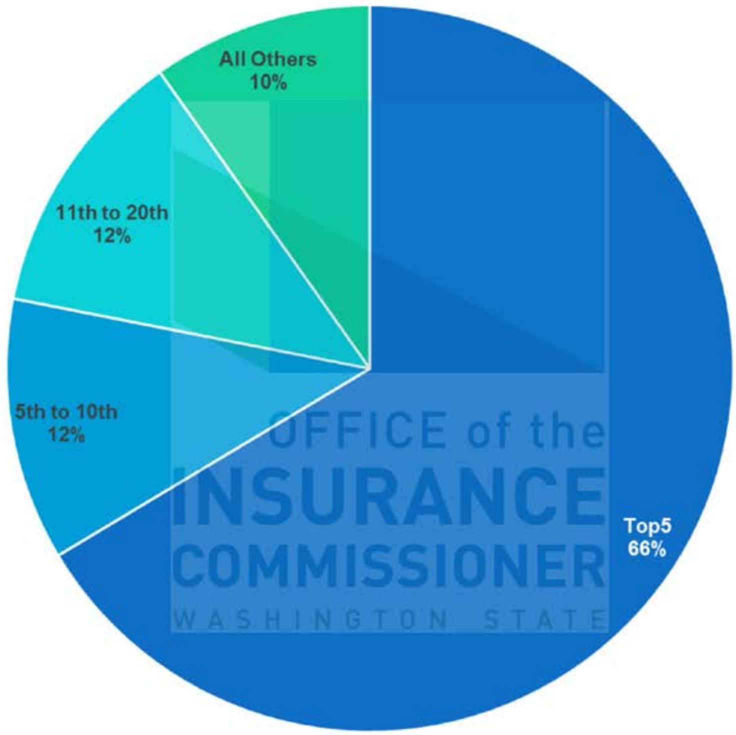
Company market share — All earthquake policies



Residential

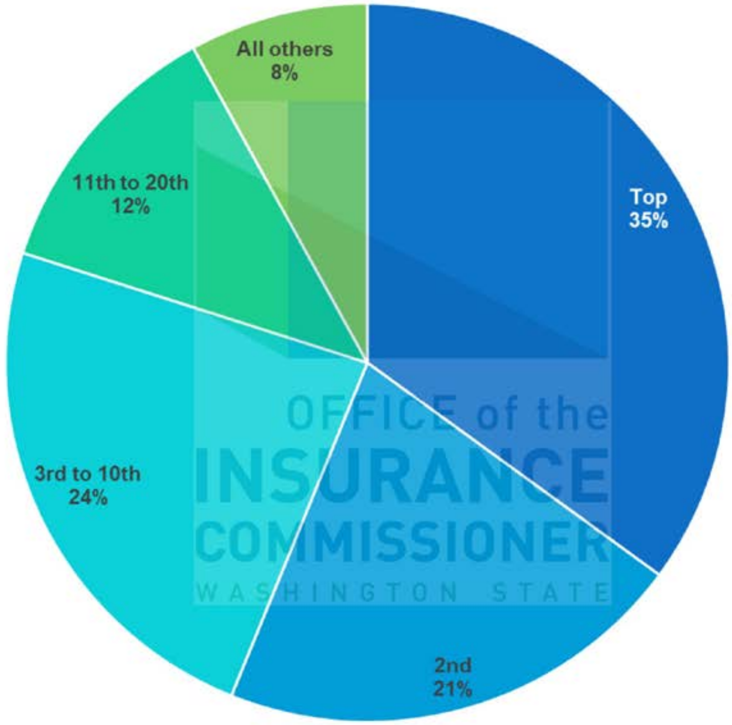
The residential market for earthquake insurance is almost entirely made up of admitted insurers. Of these insurers, two sell more than half the residential earthquake policies in the state. The top overall seller clearly dominates this market with 33.9% of the general policies and 20% of all earthquake policies in our data. By contrast, the second-ranked company represents only 1.5% of the overall market for homeowners insurance, but sells 18.1% of all earthquake policies in our data. This is partially because they specialize in earthquake coverage, so all of their policies include earthquake coverage, but also partially because the company is particularly active west of the Cascades.

Company market share — Residential earthquake policies



These same two companies hold an outsized portion of the exposure in the residential earthquake market. In our data, these companies represent more than 50% of the exposure with both companies each holding more than four times the exposure of the third-ranked company. However, both companies hold this exposure more by the volume of policies than by the value of the coverage. In both cases, the average coverage value of the earthquake insured properties is close to the average value of covered properties found in our survey. It should also be noted that four companies seem to specialize in high-value earthquake policies. The average exposure for earthquake policies written by these companies was significantly higher than most, with all reporting an average insured value for earthquake in excess of $1.75 million.

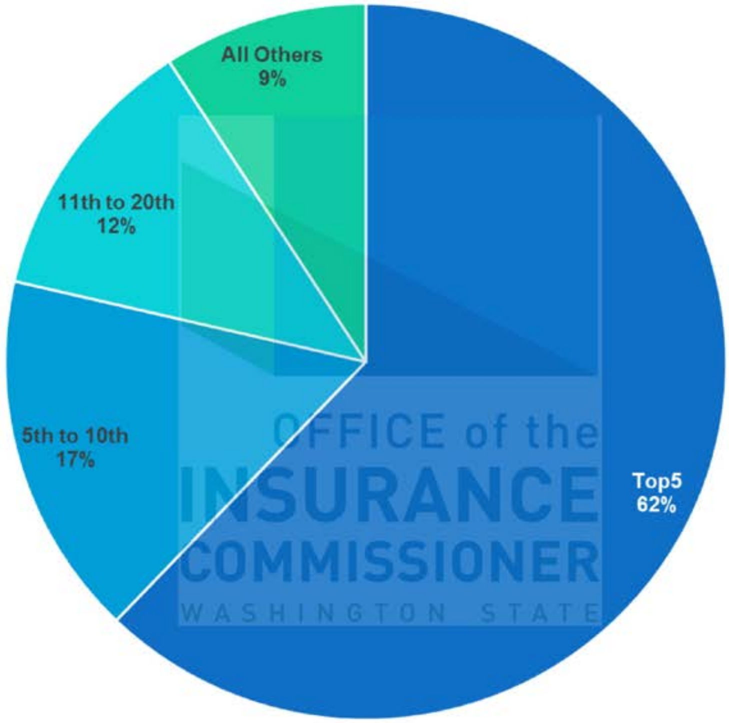
Company exposure — Residential earthquake policies



Commercial

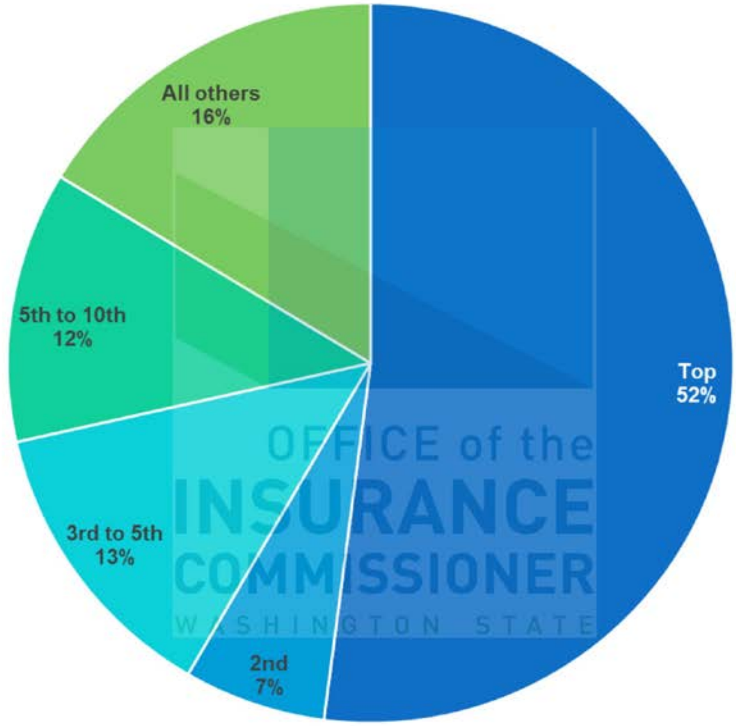
Unlike the residential market, the commercial market for earthquake is dominated by a few surplus line insurers with numerous admitted insurers operating at a small scale. Seven of the top 10 market share holders are surplus line insurers, and the top three overall companies (all surplus line insurers) represent 45.9% of the commercial earthquake policies in our data.

Company market share — Commercial earthquake policies



In terms of exposure, the commercial market is concentrated with one company. One surplus line insurer holds 21.6% of the policies in the data but 52.1% of the exposure. This is more than eight times the exposure of the next largest insurer, with the majority of other companies holding less than .05% of the exposure of this company. Part of the reason for the large exposure is a higher-than-average insured property value, as well as a large number of policies in King and Pierce counties, two traditionally expensive markets for commercial real estate.

Company exposure — Commercial earthquake policies



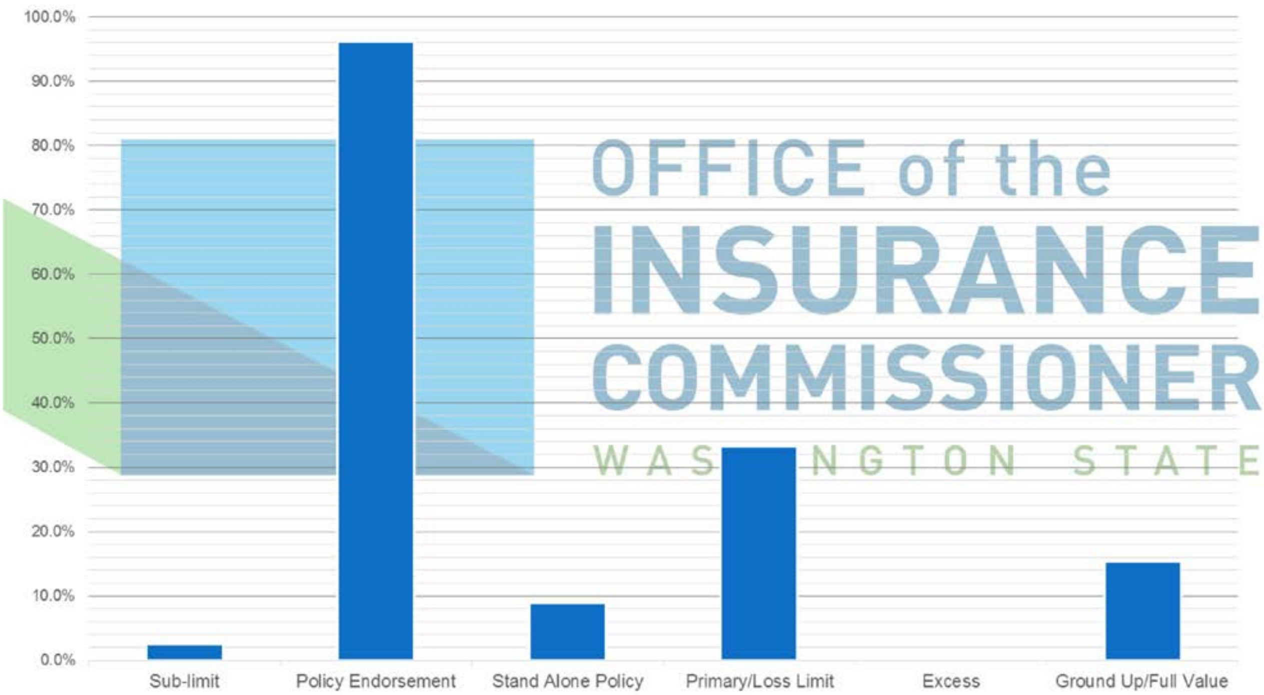
How is earthquake coverage offered?

As part of OIC's data call, we requested information about how insurers offer earthquake insurance. Each company was asked which of eight methods they were commonly using when offering coverage to prospective customers. These methods included offering coverage as a sub-limit, policy endorsement, stand-alone policy, primary/loss limit basis, excess basis, or on a ground up/full value basis. Companies were also able to indicate if they did not offer coverage or if they offered earthquake insurance as a surplus line product through their brokers.

Residential

A fair portion (16.3%) of insurers in the residential market do not offer residential earthquake coverage in Washington. A small number (3.7%) of insurers in the residential market sold policies as surplus line products only. Of the admitted insurers offering coverage, the vast majority (96.2%) of insurers offered earthquake coverage as a policy endorsement, with the remaining insurers offering earthquake insurance as a stand-alone policy. A minority (42.3%) of admitted insurers selling earthquake insurance offer coverage in multiple ways, most frequently as a policy endorsement or on a primary/loss limit basis.

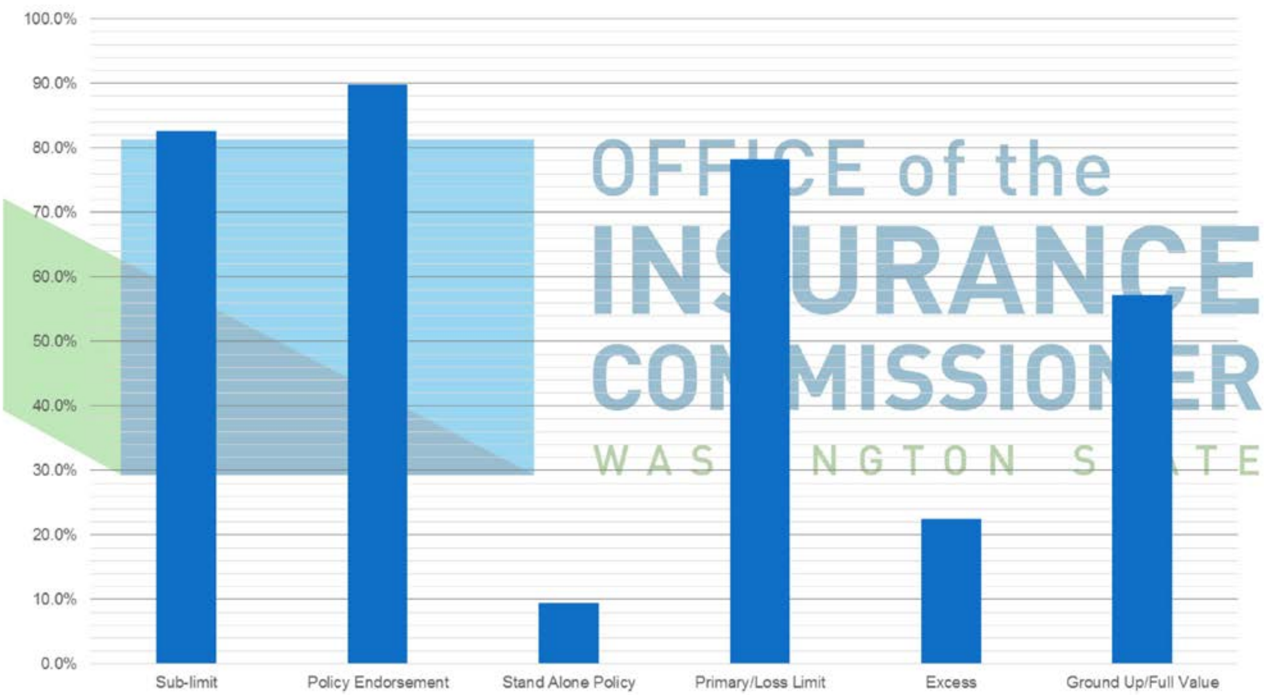
Earthquake policies offering type — Residential



Commercial

In the commercial market, 12% of companies did not offer earthquake policies, and 19% of responding companies offered coverage as a surplus line product. Only 69% of insurers in our data call offered commercial earthquake policies as enrolled insurers. Those offering policies generally offered coverage as a policy endorsement (89.9%), sub-limit (82.6%), or primary/loss limit basis (78.3%). A majority (57.2%) of insurers also offered coverage on a ground up/full value basis but this offering was almost always paired with an offering on a primary/loss limit basis. The vast majority (88.4%) of admitted insurers offered multiple earthquake coverage options in Washington.

Earthquake policies offering type — Commercial

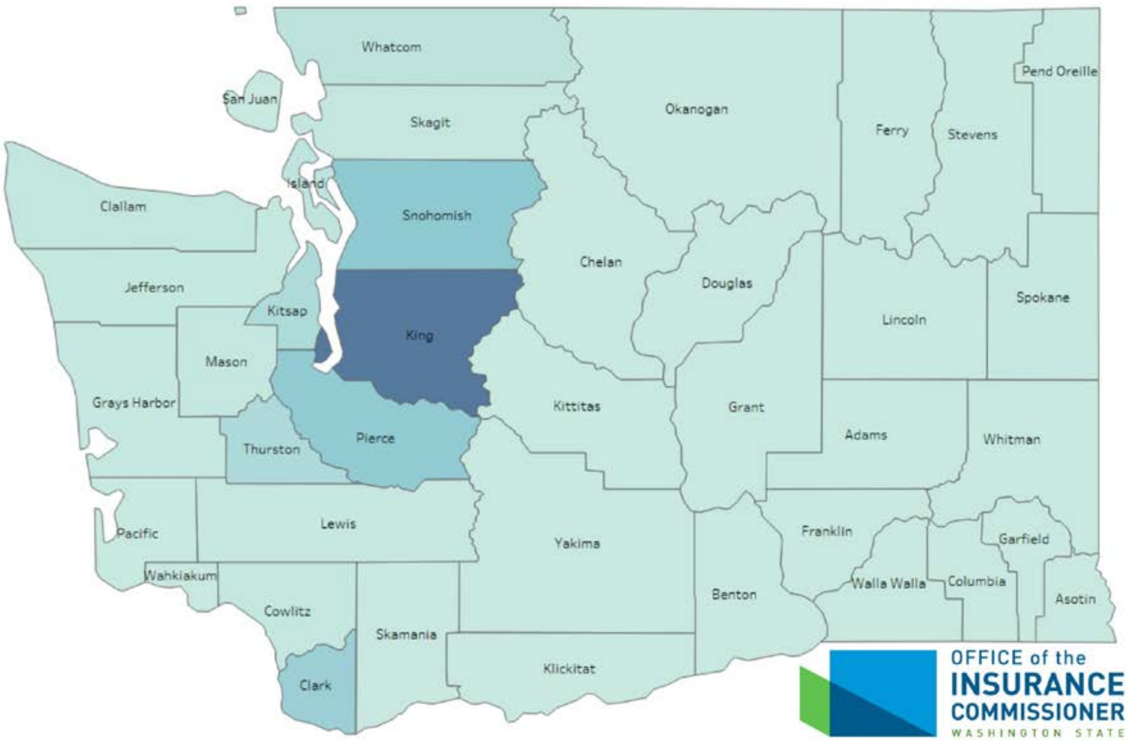


Where is earthquake coverage offered?

Residential

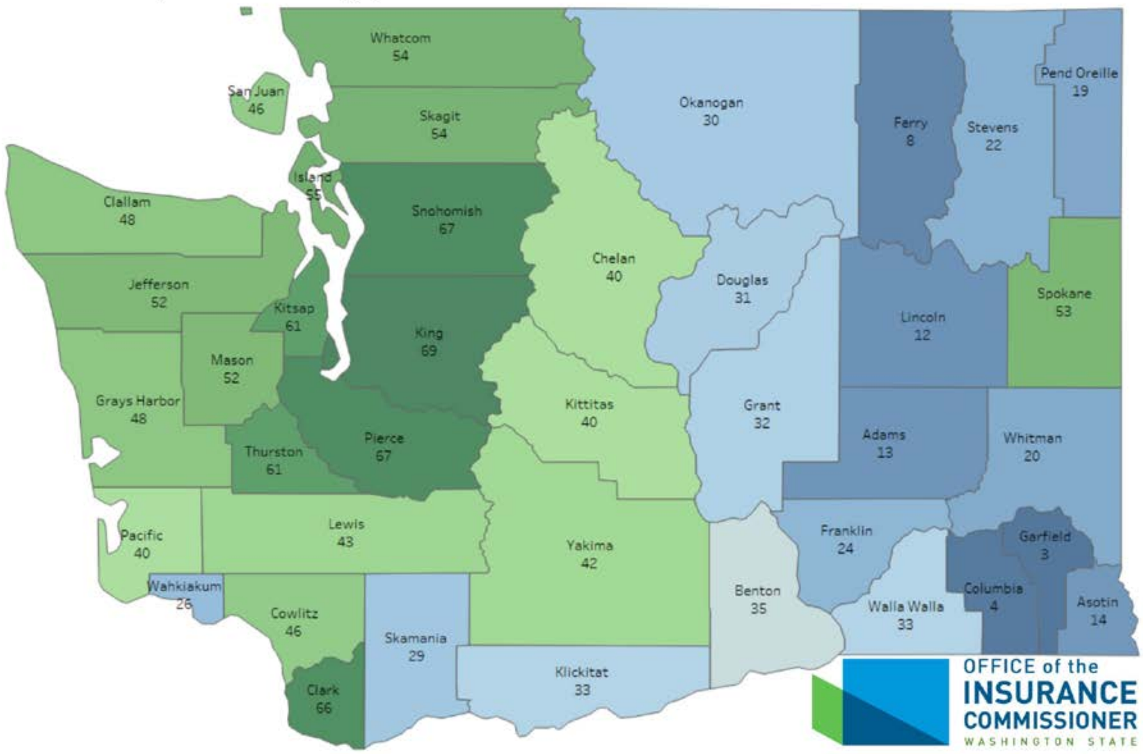
The residential market for earthquake insurance is distributed as might be expected. Western Washington had over 18 times as many residential earthquake policies in force at the end of 2016 as Eastern Washington. Large Western Washington counties including King, Pierce, Snohomish, Thurston, and Clark represent the vast majority of policies. These five counties represent 80.4% of all residential earthquake policies in Western Washington and 76.2% of all residential earthquake polices statewide.

Number of earthquake policies — Residential



In regards to insurers offering earthquake insurance in the residential market, Western Washington has far more insurer participation than Eastern Washington. Overall, Western Washington averages twice as many insurers per county as Eastern Washington. No Western Washington County has less than 26 insurers with residential earthquake policies in force at the end of 2016. Eastern Washington had 10 counties with fewer than 26 participating insurers. The five largest counties in Western Washington also had the most insurers offering policies, with an average of 66 insurers offering policies in these counties.

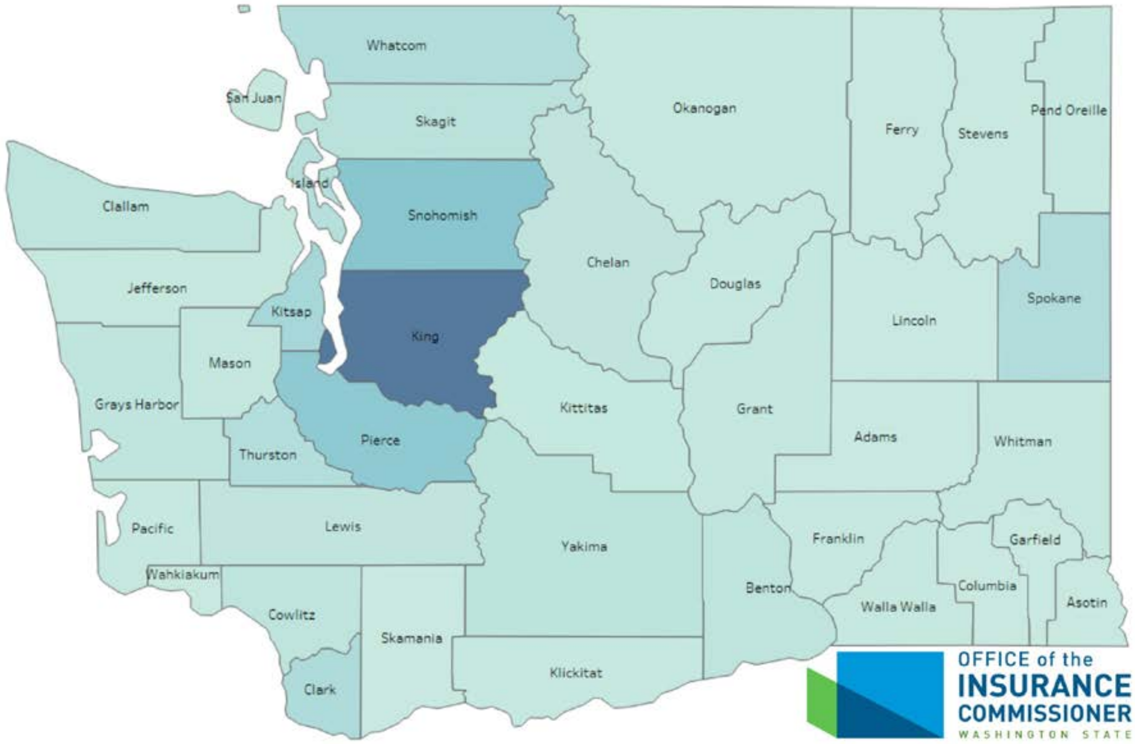
Number of companies offering policies — Residential



Commercial

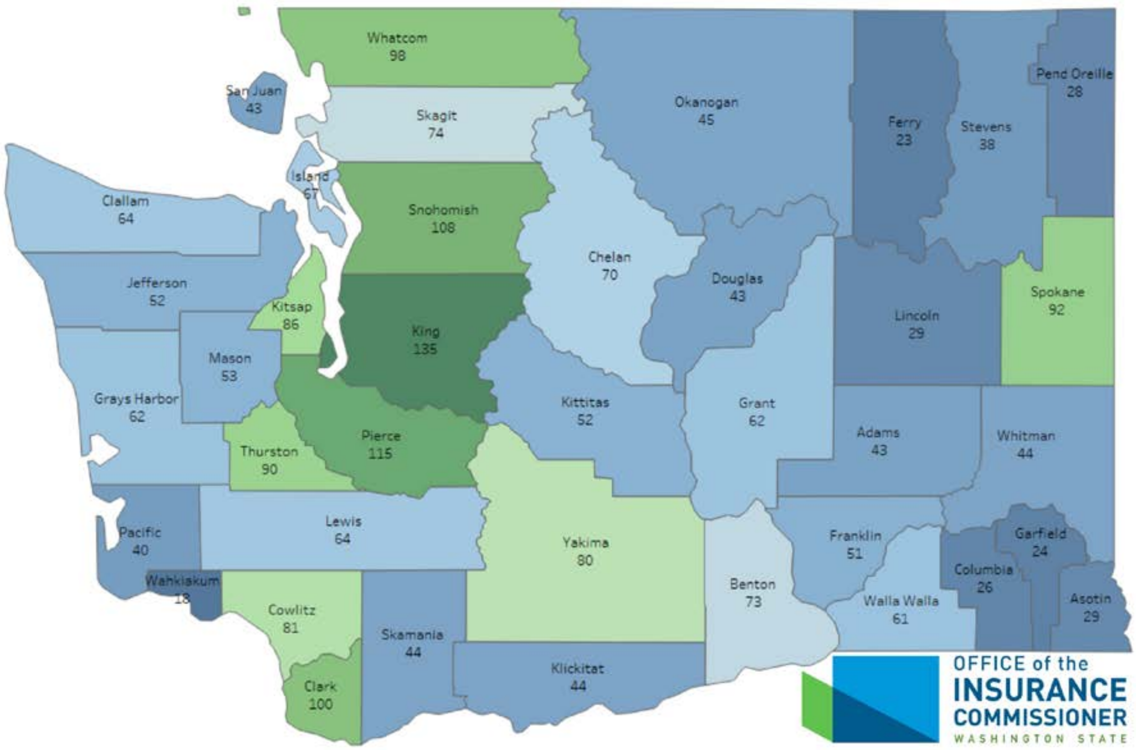
The commercial market for earthquake insurance is distributed much like the residential market, with a majority (83.4%) of policies being written in Western Washington. The top five counties with commercial earthquake policies are King, Snohomish, Pierce, Kitsap, and Clark, representing 73.1% of all Western Washington commercial earthquake policies and 60.9% of all commercial earthquake policies statewide.

Number of earthquake policies — Commercial



The commercial insurance market is generally less geographically split than the residential insurance market. On average, 122 insurers sell commercial earthquake coverage in Western, compared to 103 in Eastern Washington. Instead, the county population is much more highly correlated with the number of insurers selling in that county.

Number of companies offering earthquake policies — Commercial



How large is earthquake exposure?

Exposure in the earthquake market is fundamentally linked to the coverage rate in most areas of the state, but this value is also telling with regard to the type of structure being insured. While some small counties may have low coverage rates, they often seem to have high rates of coverage for more expensive properties, pushing the value of average covered structure for earthquake higher than the typical homeowner’s policy.

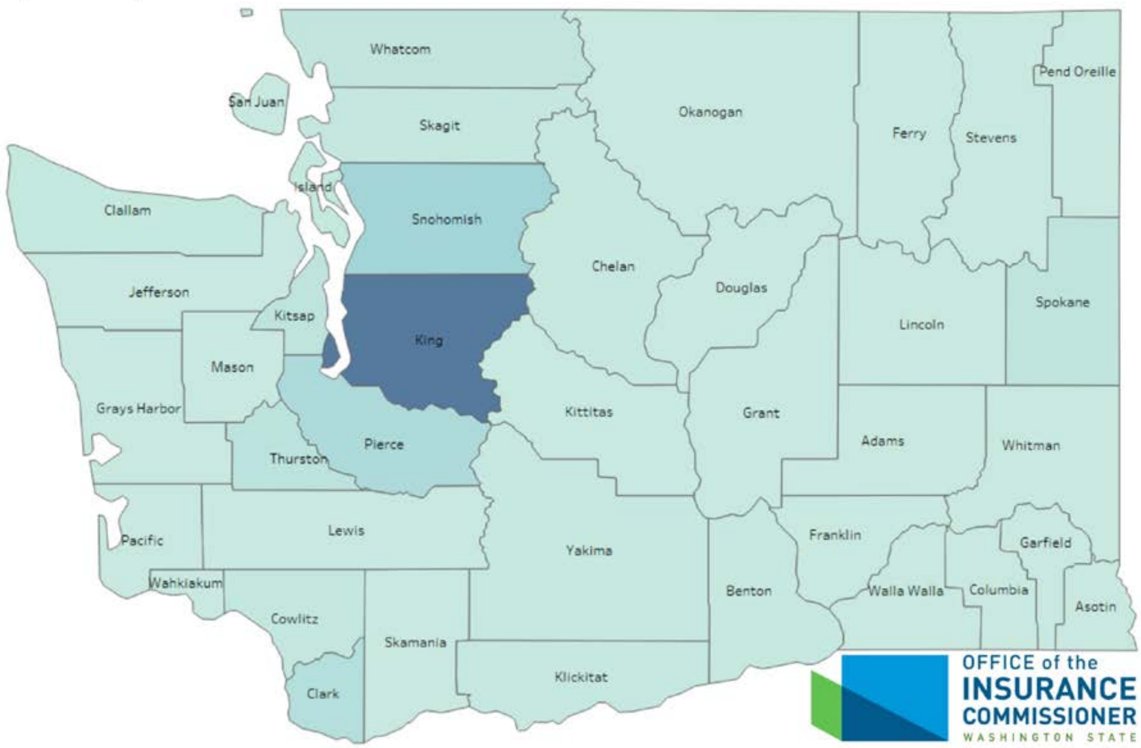
Residential

Statewide, the exposure for earthquake-insured properties is $181 billion in this data set. This is approximately 18% of the over $1 trillion in general coverage reported. Twenty counties represent 95% of the overall exposure, most of which are in Western Washington.

The residential market exposure shows that there is a bias toward earthquake coverage for more expensive properties. Properties with earthquake coverage represent an excess exposure of $65 billion, 65% more than would be expected of the typical property in the data set.

Western counties are also well represented in the data. Fully 90% of all earthquake exposure is located in Western Washington. With the exception of Spokane County, all of the top 10 counties by earthquake exposure are western counties. This is in line with the policy rate.

Earthquake exposure — Residential



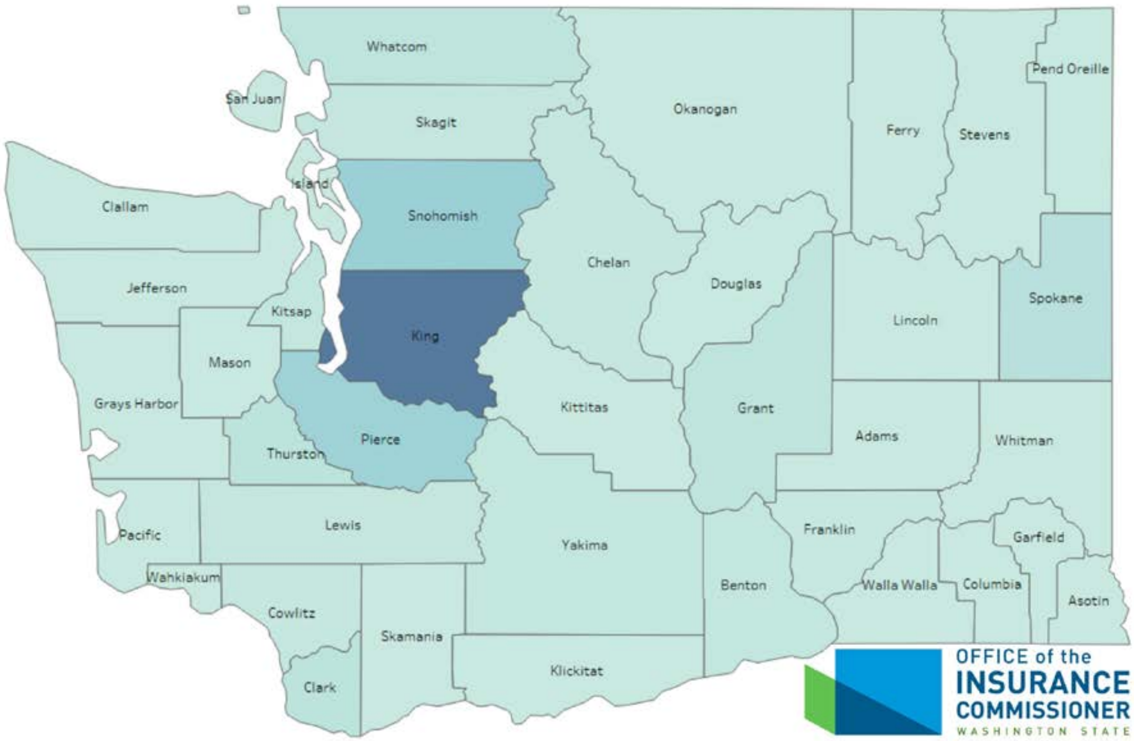
Commercial

Exposure for commercial properties is significantly larger than that of the residential market, with a value insured at just under $2 trillion represented in the data set. Approximately 85% of this exposure -- $1.7 trillion -- is represented by policies with earthquake coverage.

Like the residential market, the commercial earthquake market also tends to have a larger exposure than the average property in the market. In all, the commercial earthquake market has an excess exposure of $212 billion compared to average policies, which represents about 11% of the overall market. The difference in excess is in part due to the larger market penetration of earthquake coverage in the commercial market and in part due to the market penetration of surplus line companies.

The commercial market is also less biased toward the western counties. Only seven of the 10 counties with the largest exposure are in Western Washington. This almost perfectly mirrors the population distribution of these counties and cannot therefore be attributed to a differential in risk.

Earthquake exposure — Commercial



What are the deductibles in earthquake policies?

While this data call did not elicit premium information, it did collect information about the deductibles of the policies issued. In general, earthquake policies have a much higher deductible than typical homeowner and commercial insurance policies. The deductibles are frequently a percentage of the insured value of the property. Depending on the company, the insured value is frequently 50% or more above the appraised value, as these policies also include the contents of the structure.

The net effect of the deductible on many earthquake policies is that they only produce benefit when a significant portion of the structure is damaged during an event. This makes the "quality" of the policy important in earthquake prone areas where significant damage is unlikely for a single event but frequent small impacts are very likely.

Residential

The policies for most structures carry a fairly standard deductible, between 10% and 15% of the insured value. Three quarters of the companies that reported deductibles reported the most common deductible for earthquake policies in this range. Policy deductibles ranged from first dollar coverage ($0 deductible) all the way up to 40% deductibles. Several companies also offered fixed-price deductibles between $100 and $5,000.

Commercial

Commercial earthquake policies are much more varied in deductible than residential policies. While about 20% offer policies with a similar 10% to 15% deductible range to residential policies, 25% offer policies with a 0% to 8% average deductible. More than half of the companies that offer earthquake coverage in the commercial market do so with a fixed-price deductible that represents, on a percentage basis, less than a 10% deductible. However, since many of the companies operating in the commercial market are surplus line insurers, it is impossible to say that these deductibles are comparable to those found in the residential market. In fact, the surplus line insurers seem to offer policies with deductibles across the map. Some offer $0 deductibles while others offer 100% deductibles (described by the company as “excess loss plans”) with no describable pattern in our data.

Methodology

OIC staff was given general guidelines on the design of the data call by Commissioner Kreidler. Staff was asked to determine the coverage of earthquake insurance in the Washington market with a focus on both residential and commercial properties, while also minimizing the length and depth of the data being requested. This posed a challenge given the property and casualty marketplace is highly varied, with 864 admitted insurers and hundreds of surplus line insurers participating in the market. Staff eventually decided on a county-by-county data approach, combined with a short questionnaire which kept the data requirements at a summary level while still providing sufficient detail for analysis.

Instrument

The data call instrument was designed to elicit an assortment of information regarding both general all perils policies and specific earthquake coverage of a broad variety of insurers. The data call consisted of a spreadsheet with three tabs (one for questions, two asking for data) which covered "residential" and "commercial" separately. In each tab, insurers were also asked about both their all perils policies and earthquake specific coverage. A copy of the instrument is included in Appendix A.

As this instrument was to be issued to both surplus line and admitted insurers, OIC staff chose to provide a single, broadly worded survey to all insurers rather than customizing the document for the type of insurer. Using a single survey simplified implementation but made the specificity of the response form of utmost importance. To attempt to make the wording as understandable and concise as possible, OIC staff shared several drafts with both industry and policy experts before arriving at final language. However, even after extensive comments and multiple revisions, the final draft still caused confusion for contacted insurers. As such, OIC issued a frequently asked questions (FAQ) document and made staff available to address insurer questions. The FAQ is included in Appendix B.

Questions

There were seven questions on the survey, which were further differentiated by market (residential and commercial). The first two questions referred only to typical "Coverage A" or "all other perils" policies and elicited information about the coverage level and deductible of these policies. The remaining five questions sought to determine if and how earthquake coverage was offered (question three) and the coverage of those policies.

All insurers were required to answer the first three questions, but only insurers that offered earthquake coverage were required to answer all seven. For deductible questions, insurers were given a choice between reporting the nearest whole dollar value or the percentage for the deductible. Capacity questions were asked in rounded whole dollars. In all questions, insurers were asked to answer separately for residential and commercial policies.

Market data

County level policy data was collected on two tabs titled "residential" and "commercial." In these tabs insurers were asked to report the number of policies, number of policies with earthquake coverage, and the total exposure for each of the state's 39 counties. For surplus line insurers, it was assumed that every earthquake policy sold represented a single property and was thus a single policy. This assumption was provided as guidance as multiple insurers in this market had advised the OIC that they covered structures in multiple counties with a single policy.

Data validation

The instrument was designed to integrate multiple data validation techniques. Due to the multiple disparate methods of covering earthquakes available in the market, OIC assumed that there might be problems with reporting data in both the aggregate (question tab) and by county (data tabs). To combat this, OIC built in several redundant data reporting questions. These included:

- Asking companies if they offered earthquake insurance and how much.
- Asking companies to provide both a statewide average risk as well as the total risk and number of policies.
- Asking companies for both an average deductible for earthquake and a range.

OIC also asked insurers to submit data for each of the companies they controlled rather than submitting aggregated data. This allowed us to cross check between similar companies to ensure that reporting was internally consistent.

Implementation

Issuance

OIC chose to issue the data call to insurers including surplus line insurers. OIC sent a targeted email to the 40 largest property and casualty companies based on market share calculated from annual filings with OIC. OIC also emailed the 40 largest insurers of earthquake specific policies. OIC also recognized the role that surplus line insurers (non-admitted) play in the earthquake insurance market by requesting a list of surplus line insurers who may offer earthquake coverage from a large insurer group. The admitted company groups overlapped substantially, but overall the OIC contacted 108 companies with a direct requirement to submit data as part of the data call. Other insurers received the data call through trade associations, postings on the OIC data call website, postings on surplus line associations, and other insurer groups.

Outreach

Companies that received the data call were given direct contact numbers and emails for OIC staff for questions relating to the call. OIC also posted a frequently asked questions document (FAQ) to answer common questions. The FAQ was updated as emails were received. OIC staff also spent significant time on the phone with insurer representatives working through additional questions and helping insurers report on time. This resulted in a large percentage of cross-checked reporting without any issues and many timely reports.

Revisions

While the majority of insurers were able to get the answers to their questions before reporting, some insurers either misinterpreted the instructions or reported the wrong data. OIC expected this because the data call included many non-admitted companies unaccustomed to reporting data to OIC. To ensure the cleanest and most accurate data was available to Commissioner Kreidler, OIC staff sent requests for corrections back to directly contacted insurers based on a series of cross checks, some of which are listed above. A full list of checks and a sample copy of the email sent can be found in Appendix C. OIC gave insurers a few days to respond because most of the corrections were minor. The vast majority were able to meet the short deadline.

Data cleaning

Overall the data came in relatively clean. There were a small number of obvious typos (such as a 150% deductible) as well as some systematic errors (such as reporting in thousands of dollars) which were corrected without contacting the company. Other larger errors were either corrected by the company or removed. OIC chose to exclude erroneous data on a row by row basis rather than wholesale to keep as much data as possible.

The most common errors were missing values in county total exposure. Most of these were for data rows with less than five policies reported and thus excluded without significant impact. These rows also tended to have other missing values, which generally indicated that the whole company report was invalid. Only three companies had their data excluded for this reason, which removed under 100 policies.

Other errors, such as over reporting of earthquake policies by surplus line insurers, were corrected by OIC staff by assuming that each earthquake policy was also an "all perils" policy. This was an assumption made early in the design phase of the instrument when OIC staff became aware that surplus line insurers frequently covered multiple structures across the state under one policy. After OIC corrections, only a few insurers needed to update their data.

The most severe issue was a systematic missing value for many insurers on question two of the questions tab. This questions referred to the "median all other perils deductible." This was intended to represent values for all policies, but insurers with significant earthquake coverage would often exclude this value as these policies were not just "all other perils." OIC has decided to exclude this variable from certain companies in our analysis due to this issue. However, this value stands as a rate variable so is only slightly biased by the removals.

Conclusion

On many points, this study confirmed our general assumptions about the Washington earthquake insurance market. Our market is robust, with many companies offering policies. As in other insurance markets, there are more insurers and policy choices in the more highly populated counties. In Western Washington, where higher risk of earthquake is well documented, more commercial and residential properties are insured.

On a positive note, residential coverage rates for earthquake insurance are higher than predicted, at 11.3%. And, as noted above, the rate in Western Washington is even higher, at 13.8%. This rate compares favorably with other high-risk states.

But there is work to be done.

Although our residential coverage rate is higher than expected, it does not mirror the level of anticipated risk of property loss. It does not appear that homeowners experience a barrier in finding available policies. However, analysis of other potential barriers might prove helpful. We note that higher value homes are more likely to have coverage; from that, we infer a potential affordability issue for owners of more modest homes. There may also be value in exploring additional educational outreach about the risk of earthquake and the value of coverage.

Similarly, although commercial coverage rates are fairly strong in Washington, additional analysis of barriers and opportunities to increase coverage are recommended.

Given Washington's geologic conditions, the question is not whether a large earthquake, with the ensuing damage to lives and property, will occur; the question is when. Insurance is a known key to resilience after disaster, and the issue merits additional priority in this state.

Appendix A

1) What is the average coverage A amount of the properties insured…
(Use only whole numbers rounded to the nearest dollar)

a) … for RESIDENTIAL properties?	$
b) … for COMMERCIAL properties?	$

2) What is the median All Perils (except earthquake) deductible…
(Use only whole numbers rounded to the nearest dollar/percentage)

a) … for RESIDENTIAL properties?	$	or	%
b) … for COMMERCIAL properties?	$	or	%

3) How do you offer earthquake insurance? (Choose all that apply)

Residential	**Commercial**	
☐	☐	My company does not offer earthquake insurance in Washington.
☐	☐	My company offers earthquake insurance as a sub-limit.
☐	☐	My company offers earthquake insurance as a policy endorsement.
☐	☐	My company offers earthquake insurance as a standalone policy.
☐	☐	My company offers earthquake insurance as a surplus line product through our brokers.
☐	☐	My company offers earthquake insurance on a Primary or Loss Limit basis.
☐	☐	My company offers earthquake insurance on an Excess basis.
☐	☐	My company offers earthquake insurance on a Ground Up (or Full Value) basis.

If your company does not offer earthquake coverage <STOP>, do not answer questions 4-7 remaining on this tab; continue on the next two tabs.

4) What is maximum EARTHQUAKE capacity on single risk?
(Use only whole numbers rounded to the nearest dollar)

a) … for RESIDENTIAL properties?	$
b) … for COMMERCIAL properties?	$

5) What is average EARTHQUAKE capacity on single risk?
(Use only whole numbers rounded to the nearest dollar)

a) … for RESIDENTIAL properties?	$
b) … for COMMERCIAL properties?	$

6) What is the median EARTHQUAKE deductible…
(Use only whole numbers rounded to the nearest dollar/percentage)

a) … for RESIDENTIAL properties?	$	**OR**	%
b) … for COMMERCIAL properties?	$	**OR**	%

7) What deductible range do you offer for EARTHQUAKE?
(Use only whole numbers rounded to the nearest dollar/percentage)

Residential:	$	to	$	**OR**	%	to	%
Commercial:	$	to	$	**OR**	%	to	%

Instructions: **Residential policies** are defined as owner occupied structures where the insured makes their residence. This includes second homes and vacation houses that are not covered for rental.

Commercial policies are defined as non-owner occupied structures where the insured is an individual, business, or other entity. This includes, but is not limited to, business locations, rental units, commercial properties, and agricultural lands.

Residential

A) County Name	B) FIPS Code	C) Dollar ($) Value of properties (structure & contents) insured	D) Number of residential properties with earthquake coverage	E) Number of residential property policies written
Adams County	53001			
Asotin County	53003			
Benton County	53005			
Chelan County	53007			
Clallam County	53009			
Clark County	53011			
Columbia County	53013			
Cowlitz County	53015			
Douglas County	53017			
Ferry County	53019			
Franklin County	53021			
Garfield County	53023			
Grant County	53025			
Grays Harbor County	53027			
Island County	53029			
Jefferson County	53031			
King County	53033			
Kitsap County	53035			
Kittitas County	53037			
Klickitat County	53039			
Lewis County	53041			
Lincoln County	53043			
Mason County	53045			
Okanogan County	53047			
Pacific County	53049			
Pend Oreille County	53051			
Pierce County	53053			
San Juan County	53055			
Skagit County	53057			
Skamania County	53059			
Snohomish County	53061			
Spokane County	53063			
Stevens County	53065			
Thurston County	53067			
Wahkiakum County	53069			
Walla Walla County	53071			
Whatcom County	53073			

A) County Name	B) FIPS Code	C) Dollar ($) Value of properties (structure & contents) insured	D) Number of residential properties with earthquake coverage	E) Number of residential property policies written
Whitman County	53075			
Yakima County	53077			
Instructions:		Residential structures, replacement value, rounded to the nearest thousand dollars.	Include policies where EQ included in Package, Fire, Allied Lines, Commercial Multi Peril (non-liability portion), DIC, or mono-line EQ	Any policy that covers a building to at least 50% of the replacement cost. Count one policy with multiple buildings as a single policy.

Commercial

A) County name	B) FIPS Code	C) Dollar ($) Value of properties (structure & contents) insured	D) Number of commercial properties with earthquake coverage	E) Number of commercial property policies written
Adams County	53001			
Asotin County	53003			
Benton County	53005			
Chelan County	53007			
Clallam County	53009			
Clark County	53011			
Columbia County	53013			
Cowlitz County	53015			
Douglas County	53017			
Ferry County	53019			
Franklin County	53021			
Garfield County	53023			
Grant County	53025			
Grays Harbor County	53027			
Island County	53029			
Jefferson County	53031			
King County	53033			
Kitsap County	53035			
Kittitas County	53037			
Klickitat County	53039			

A) County name	B) FIPS Code	C) Dollar ($) Value of properties (structure & contents) insured	D) Number of commercial properties with earthquake coverage	E) Number of commercial property policies written
Lewis County	53041			
Lincoln County	53043			
Mason County	53045			
Okanogan County	53047			
Pacific County	53049			
Pend Oreille County	53051			
Pierce County	53053			
San Juan County	53055			
Skagit County	53057			
Skamania County	53059			
Snohomish County	53061			
Spokane County	53063			
Stevens County	53065			
Thurston County	53067			
Wahkiakum County	53069			
Walla Walla County	53071			
Whatcom County	53073			
Whitman County	53075			
Yakima County	53077			
Instructions:		All non-owner occupied structures, replacement value, rounded to the nearest thousand dollars.	Include policies where EQ included in Package, Fire, Allied Lines, Commercial Multi Peril (non-liability portion), DIC, or mono-line EQ	Any policy that covers a building to at least 50% of the replacement cost. Count one policy with multiple buildings as a single policy.

Appendix B

Frequently asked questions of the 2017 earthquake data call.

When is the data call due?

The OIC Earthquake data call is due by close of business (5pm PST) on October 13th, 2017.

What date should my data reflect for my submission?

The OIC Earthquake data call is for policies in place as of December 31st, 2016.

We do not sell property coverage in Washington, do we still have to submit?

No. Only admitted insurers with active policies in Washington State as of 12/31/16 are required to submit data under this data call.

We do not sell plans with "earthquake" coverage in Washington, do we still have to submit?

Yes. You may skip questions 4-7 on the "Questions" tab but all other portions must be filled in.

We need more time, can we have an extension beyond 10/13/17?

The OIC is not offering extensions beyond the stated date so that we can meet legislative deadlines for our report.

We do not offer plans in a county, what do we do?

Please enter "N/A" in any boxes where you do not offer coverage. If you offer coverage but have no active policies during the data call time period please enter "0".

What is "Coverage A"?

Per the NAIC: "Coverage A provides coverage for a house and its contents, as well as any structures attached to the premises, such as a garage or deck."

What does "capacity" mean?

Capacity means the total exposure or maximum loss covered under a particular policy for a single event within the noted parameters.

What is “FIPS Code” in column B?

FIPS codes are numeric codes used by the federal government to represent county names. OIC uses them to ensure that submitted data is correctly coded in our system. The entered codes represent the counties listed in the corresponding row in column A.

Column C asks for the dollar value of Commercial Properties insured. Our company does not capture replacement value, only Total Insured Value. What do we do?

Please enter Total Insured Value here instead. Exclude any additional coverages beyond structure/contents where possible.

Can I group several companies together when I submit?

No. Please submit a copy of the data call spreadsheet for each company with a NAIC company number.

Where do I put my company name on this form?

Please include your company name and NAIC company number in the name of the file like shown below for fictional company ABC Insurance (NAIC #12345):

“ABC Insurance 12345 EQ Data Call.xls”

We write a mix of earthquake policies and traditional all-perils policies in the state of Washington. How do we enter our data?

Please make sure to answer questions 1-7 and indicate how you offer this coverage in question 3. In the residential and commercial tabs please count earthquake only polices in column D and traditional all-perils only polices in column E. Traditional all-perils policies with earthquake coverage should be counted in columns D and E. Column C should reflect the sum of maximum exposure for each policy form a single risk. Do not double count exposure from policies with all-perils and earthquake coverage.

We do not track county as part of our policy information. How do we report?

If you retain the property address you may utilize the US Census geocoder web-app to derive the county information for each property (individual or in batches of up to 1000 addresses). The tool can be accessed at the following web address:

https://www.census.gov/geo/maps-data/data/geocoder.html

Appendix C

Below is the email and data call instructions that were sent out to insurers for the Washington state Office of the Insurance Commissioner's 2017 earthquake data call.

Sent: Sept. 15, 2017 at 10:33 a.m.
Good morning,

By this email and the attached documents, the Office of the Insurance Commissioner (OIC) is calling for data with the purpose of determining the current utilization rate of residential and commercial earthquake insurance in the state of Washington.

This data call is being issued to companies authorized to do business in Washington state under the OIC's broad investigatory authority, see RCW 48.02.060(3)(c). We are also requesting responses from surplus line companies doing business in Washington. We very much appreciate the assistance of domestic insurers and the Surplus Line Association of Washington who assisted in reviewing a draft of this data call to improve its clarity and ensure greater accuracy in the submitted responses.

Attached is the data call spreadsheet, and a memorandum of guidance for the response. The completed data call is due **October 13, 2017**. Please complete and submit the responses in the attached spreadsheet to: DataCall@oic.wa.gov. Questions regarding the purpose and use of data call may be directed to Stacy Middleton at stacym@oic.wa.gov. Technical questions regarding responses on the spreadsheet may be directed to Micah Sanders at micahs@oic.wa.gov.

Thank you,

AnnaLisa Gellermann
Deputy Insurance Commissioner of Policy and Legislative Affairs
Washington State Office of the Insurance Commissioner
PO Box 40255 Olympia WA 98504-0255
360.725-7037
annalisag@oic.wa.gov

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Memorandum

To: Earthquake Datacall Insurer

From: Micah Sanders, OIC Policy Division

Date: 9/7/17

Subject: Instructions for completing the Earthquake Data call spreadsheet

This earthquake data call includes three specific parts located in tabs within an excel spreadsheet. Please complete all three tabs of the spreadsheet even if your company does not offer earthquake, residential, or commercial coverage. Please complete all GREY sections and check any applicable BOXES.

If your company does not offer coverage or you feel that a box does not apply to your company please fill the applicable spaces with a "NA" to indicate that you do not offer coverage. Entering a "0" will be interpreted as your company does offer coverage but currently has no enrollments.

Completing the "Questions" tab

1) Please complete all questions for both residential and commercial lines. If your company does not offer coverage for one of the two lines enter "NA."
2) Please enter "NA" in either the "$" or "%" boxes if your company does not offer both a total dollar cap and percentage cap on policy value or deductible.
3) If your company offers property coverage for some perils but no coverage for earthquake damage you may skip questions 4-7 on the "Questions" tab.

Completing the "Residential" and "Commercial" tabs

Column C: Please enter the total replacement dollar value of structures and contents, rounded to the nearest thousand dollars for covered properties located in the indicated Washington county. This value should represent the total maximum exposure by county, not the average property exposure. Earthquake coverage provided by a secondary party should not be included.

Column D: Please enter the total number of properties in the indicated county that include earthquake coverage in the form of package, fire, allied lines, commercial multi-peril (non-liability portion), DIC, or mono-line earthquake coverage. Entered values must be non-rounded, whole numbers.

Column E: Please enter the total number of properties in the indicated county that covers a building to at least 50% of the replacement cost. Count one policy with multiple buildings as a single policy. For properties where multiple individuals policies to cover the structure, count all policies together as one policy covering the structure.

Definitions

Residential policies: owner occupied structures where the insured makes their residence. This includes second homes and vacation houses that are not covered for rental.

Commercial policies: non-owner occupied structures where the insured is an individual, business, or other entity. Generally means insurance pertaining to a business, profession, occupation, nonprofit organization, or public entity for the lines of property & casualty insurance. This includes, but is not limited to, business locations, rental units, commercial properties, and agricultural lands.

Replacement value: The total value of structures and contents insured on one property/policy. This is effectively the total exposure from property loss, excluding medical, loss of use benefits, legal, or other expenses.

Earthquake Coverage: Coverage for earthquake induced losses in the form of package, fire, allied lines, commercial multi-peril (non-liability portion), DIC, or mono-line earthquake coverage.

Questions

If you have any questions regarding how to complete this spreadsheet please contact me at the address below.

Micah Sanders

Economic Policy Analyst

Washington OIC

MicahS@oic.wa.gov

Appendix D

Companies from whom data was requested, which responded

Company Name	NAIC Code	Admitted vs Non-admitted
Ace American Insurance Company	22667	Admitted
AIX Specialty Insurance Company	12833	Non-admitted
Allianz Global Risk US Insurance Company	35300	Admitted
Allied Property & Casualty Insurance Company	42579	Admitted
Allied World Assurance Company Inc.	19489	Non-admitted
Allstate Insurance Company	19232	Admitted
American Automobile Insurance Company	21849	Admitted
American Family Mutual Insurance Company., S.I.	19275	Admitted
American Guar & Liability Insurance	26247	Admitted
American Modern Home Insurance Company	23469	Admitted
Aspen Specialty Insurance Company	10717	Non-admitted
AXIS Insurance Company	37273	Admitted
AXIS Surplus Insurance Company	26620	Non-admitted
Burlington Insurance Company, The	23620	Non-admitted
Country Mutual Insurance Company	20990	Admitted
Crestbrook Insurance Company	18961	Admitted
Depositors Insurance Company	42587	Admitted
Endurance American Specialty Insurance Company	41718	Non-admitted
EVANSTON INSURANCE COMPANY	35378	Non-admitted
Farmers Insurance Company of Washington	21644	Admitted
Federated Mutual Insurance Company	13935	Admitted
First Specialty Insurance Corporation	34916	Non-admitted
Foremost Insurance Company Grand Rapids, MI	11185	Admitted
Foremost Property & Casualty Insurance Company	11800	Admitted
General Security Indemnity Company of Arizona	20559	Non-admitted

Company Name	NAIC Code	Admitted vs Non-admitted
Golden Bear Insurance Company	39861	Non-admitted
Grange Insurance Association	22101	Non-admitted
Great Northern Insurance Company	20303	Admitted
Houston Casualty Company	42374	Non-admitted
HSB Specialty Insurance Company	14438	Non-admitted
Indian Harbor Insurance Company	36940	Non-admitted
Insurance Company of the West	27847	Admitted
Ironshore Specialty Insurance Company	25445	Non-admitted
JAMES RIVER INSURANCE COMPANY	12203	Non-admitted
Kinsale Insurance Company	38920	Non-admitted
Lexington Insurance Company	19437	Non-admitted
Liberty Mutual Fire Insurance Company	23035	Admitted
Liberty Surplus Insurance Corporation	10725	Non-admitted
Maxum Indemnity Company	26743	Non-admitted
Mt. Hawley Insurance Company	37974	Non-admitted
Mutual of Enumclaw Insurance Company	14761	Admitted
Nationwide Mutual Fire Insurance Company	23779	Admitted
Pacific Indemnity Company	20346	Admitted
Palomar Specialty Insurance Company	20338	Admitted
Princeton Excess & Surplus Lines Insurance Company	10786	Non-admitted
QBE Insurance Corporation	39217	Admitted
QBE Specialty Insurance Company	11515	Non-admitted
Rockhill Insurance Company	28053	Non-admitted
Safeco Insurance Company of America	24740	Admitted
Safeco Insurance Company Of IL	39012	Admitted
Starr Surplus Lines Insurance Company	13604	Non-admitted
State Farm Fire & Casualty Company	25143	Admitted
Steadfast Insurance Company	26387	Non-admitted
Travelers Excess and Surplus Lines Company	29696	Non-admitted

Company Name	NAIC Code	Admitted vs Non-admitted
Travelers Indemnity Company	25658	Admitted
Travelers Property Casualty Company of America	25674	Admitted
Unigard Insurance Company	25747	Admitted
United National Insurance Company	13064	Non-admitted
United Specialty Insurance Company	12537	Non-admitted
Vigilant Insurance Company	20397	Admitted
Westchester Fire Insurance Company	10030	Admitted
Westport Insurance Corporation	39845	Admitted
XL Insurance American Inc.	24554	Admitted