

WOOD FROM TREES KILLED OR INFESTED BY CERTAIN BEETLES SALES TAX EXEMPTION



JANUARY 2020
2020-TE4

EVALUATION SUMMARY

THIS EVALUATION WILL BE INCLUDED IN COMPILATION REPORT SEPTEMBER 2020

YEAR ENACTED	2008
REPEAL/EXPIRATION DATE	June 30, 2020
REVENUE IMPACT	\$483,000 (CALENDAR YEAR 2018)
NUMBER OF TAXPAYERS	Could not determine
AVERAGE TAXPAYER BENEFIT	Could not determine
IS IT MEETING ITS PURPOSE?	Yes, but to a limited extent

WHAT DOES THIS TAX EXPENDITURE DO?

The Wood from Trees Killed or Infested by Certain Beetles Sales Tax Exemption (Beetle Kill Wood Exemption) [Section 39-26-723, C.R.S.] exempts products made from Colorado-harvested wood killed or infested by mountain pine or spruce beetles from state sales and use tax.

WHAT DID THE EVALUATION FIND?

We found that the exemption may have increased consumer demand for beetle kill wood products, but to a relatively small extent. In addition, we found that it has likely not had a substantial impact on the amount of beetle kill wood that is harvested.

WHAT IS THE PURPOSE OF THIS TAX EXPENDITURE?

Based on the legislative declaration in House Bill 08-1269, the Beetle Kill Wood Exemption was intended to incentivize the use of wood killed by mountain pine and spruce beetles.

WHAT POLICY CONSIDERATIONS DID THE EVALUATION IDENTIFY?

The General Assembly may want to consider whether the Beetle Kill Wood Exemption is meeting its purpose to the extent intended.

The General Assembly may want to consider extending the exemption to include timber killed by additional species of insects.

WOOD FROM TREES KILLED OR INFESTED BY CERTAIN BEETLES SALES TAX EXEMPTION

EVALUATION RESULTS

WHAT IS THE TAX EXPENDITURE?

The Wood from Trees Killed or Infested by Certain Beetles Sales Tax Exemption (Beetle Kill Wood Exemption) [Section 39-26-723, C.R.S.] exempts products made from Colorado-harvested wood killed or infested by mountain pine or spruce beetles from state sales and use tax. According to statute and Department of Revenue guidance, the exemption applies to products such as lumber from salvaged trees killed or infested with pine mountain or spruce beetles, furniture built with wood from salvaged trees, wood chips or wood pellets generated from salvaged trees, and other products made substantially with wood from salvaged trees, such as pencils. The exemption is available through June 30, 2020, after which it is set to expire.

Under House Bill 08-1269, which established the Beetle Kill Wood Exemption, the state sales and use tax exemption only applied to Colorado wood that was killed or infested by mountain pine beetles. However, House Bill 12-1045 amended the provision to include wood from trees impacted by spruce beetle infestations, which were becoming increasingly more destructive at the time.

For products to be eligible for the exemption, a wholesaler must certify that the products are made from salvaged trees killed or infested by mountain pine or spruce beetles in Colorado using the Department of Revenue's Certification for Sales Tax Exemption on Pine or Spruce Beetle Wood (Form DR 1240). The wholesaler provides the form to retailers to verify and document that the products are exempt from state sales tax. Retailers then apply the exemption when they sell the products

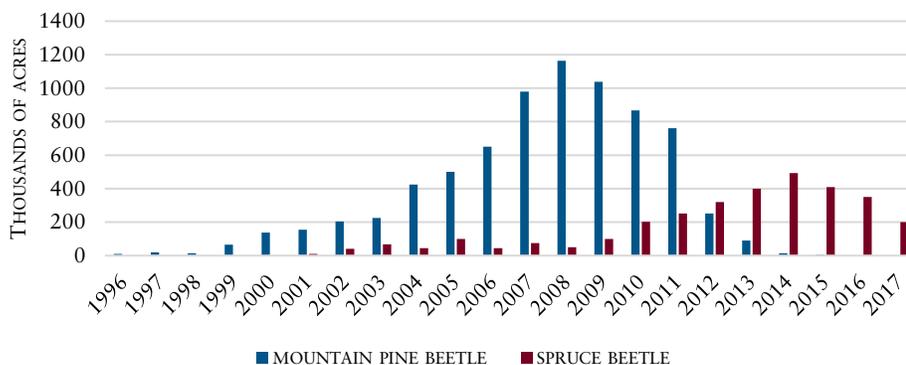
to consumers in the state who do not pay sales taxes on the purchase. Retailers must report the exempt sales when they file their Retail Sales Tax Return (Form DR 0100) with the Department of Revenue using a line on the form for “other exemptions.”

WHO ARE THE INTENDED BENEFICIARIES OF THE TAX EXPENDITURE?

Statute does not specifically identify the intended beneficiaries of the Beetle Kill Wood Exemption. Based on the legislative declaration of House Bill 08-1269 and statutory language, we inferred that the intended beneficiaries are consumers who purchase qualifying lumber, furniture, wood chips, and other products made substantially from trees killed or infested by mountain pine or spruce beetles. We also inferred that the intended beneficiaries include businesses selling qualifying wood products and the timber industry as a whole (including loggers and sawmills), since the decrease in the after-tax cost of the wood may increase consumer demand and sales.

In addition, based on the legislative declaration, we inferred that the exemption was intended to benefit the general public by incentivizing the timber industry to clear out dead and infested trees. As shown in EXHIBIT 1.1, beetle infestations have been active in Colorado’s forests since the mid-1990s.

EXHIBIT 1.1. TOTAL ACRES OF COLORADO FOREST ACTIVELY INFESTED BY PINE AND SPRUCE BEETLES 1996 THROUGH 2017



SOURCE: Colorado State Forest Service.

Although the number of actively infested acres has declined significantly since its peak in 2008, according to the Colorado State Forest Service, a forest management and information program administered through Colorado State University, there continues to be a large number of acres covered by trees that were killed by beetles in prior years. Wood harvested from these trees would be eligible for the Beetle Kill Wood Exemption. According to industry representatives, the wood must be harvested within 5 to 10 years of the death of the trees to be of high enough quality to have commercial value.

WHAT IS THE PURPOSE OF THE TAX EXPENDITURE?

The legislative declaration in House Bill 08-1269 states that the purpose of the Beetle Kill Wood Exemption was to incentivize the use of wood killed by mountain pine beetles. Although House Bill 12-1045 did not include a declaration when it expanded the exemption to include wood from trees killed by spruce beetles, we inferred that the purpose was the same for both types of wood. In addition, according to the Colorado State Forest Service, at the time the exemption was created, some consumers were reluctant to purchase the wood because of a misconception that a fungus that the beetles spread, which gives the wood a characteristic “blue stain,” could spread to non-beetle kill wood. The exemption may have also been intended to help expand markets to overcome this misconception.

IS THE TAX EXPENDITURE MEETING ITS PURPOSE AND WHAT PERFORMANCE MEASURES WERE USED TO MAKE THIS DETERMINATION?

We determined that the Beetle Kill Wood Exemption is likely meeting its purpose by incentivizing the purchase of beetle kill wood products, but only to a relatively small extent. Further, its impact is likely to decrease in the future because the amount of commercially valuable beetle kill trees is declining.

Statute does not provide quantifiable performance measures for this exemption. Therefore, we created and applied the following

performance measures to determine the extent to which the Beetle Kill Wood Exemption is meeting its purposes:

PERFORMANCE MEASURE #1: *To what extent does the BEETLE KILL WOOD EXEMPTION incentivize the purchase of products made from eligible Colorado-harvested beetle kill wood?*

RESULT: Based on our review of Colorado-sourced wood product sales and information from stakeholders, it appears that the exemption may increase consumer demand for beetle kill wood products, but to a relatively small extent. Specifically, based on data from Montana State University's Forestry Research Program, we found that about two-thirds of all Colorado-harvested wood, including beetle kill wood and other wood sources, is processed into products that are sold outside the state. Because the exemption does not apply to these sales, it has had no impact on incentivizing the purchase of a substantial portion of Colorado-sourced beetle kill wood products. Further, this indicates that beetle kill wood is in demand without a sales tax exemption, since no similar exemption exists in other states.

In addition, it appears that the exemption's effectiveness in incentivizing purchases is dependent on the type of wood product sold. Specifically, retailers and industry stakeholders indicated that some consumers seek out beetle kill wood for certain products due to the exemption and lower after-tax cost. Based on our review of prices for wood products in Colorado, beetle kill wood and non-beetle kill wood are priced similarly for some products, such as house logs or timber used for framing. Therefore, the exemption may act as an incentive to purchase these beetle kill wood products, since consumers may easily substitute the products and the after-tax cost for beetle kill wood may be lower due to the exemption. However, retailers reported that in some cases, consumers are willing to pay more for products, such as furniture, cabinets, and flooring that have the distinctive blue stain that occurs in beetle kill pine. Our review of prices for similar wood products confirmed that blue stain beetle kill pine products are often priced higher than similar products made with non-beetle kill wood. This price

difference indicates that demand for these beetle kill wood products may be driven by consumer preference rather than the exemption.

Also, most industry stakeholders we surveyed indicated that the Beetle Kill Wood Exemption has not had a significant impact on sales and production of beetle kill wood products in Colorado. Specifically, 7 of the 11 survey respondents (64 percent) indicated that there was no impact on the sales or production of beetle kill wood products because of the exemption, while the remaining 36 percent indicated that it has had some impact (ranging from slight to great).

PERFORMANCE MEASURE #2: *To what extent does the BEETLE KILL WOOD EXEMPTION incentivize the harvest of pine and spruce trees killed or infested by mountain pine or spruce beetles?*

RESULT: We found that because demand for harvestable timber (of all types) in Colorado has typically exceeded the amount available in recent years, the exemption has likely not had a substantial impact on the amount of beetle kill wood that has been harvested. During Calendar Year 2016, a total of about 117 million board feet of timber was harvested in Colorado, of which 75 million board feet (64 percent) was from salvaged dead timber (most of which is likely from trees infested by pine and spruce beetles, but we lacked data to confirm this). Based on the University of Montana's Forest Industry Research Program data, 65 percent of the timber harvested in Colorado is from federally owned land managed by the U.S. Forest Service, with the remainder coming primarily from private timberland. The U.S. Forest Service allocates a certain amount of acreage for harvest each year and sells the rights to harvest it. According to stakeholders, the timber that the U.S. Forest Service is putting up for sale in Colorado is composed primarily of beetle kill timber. However, according to these stakeholders, loggers and sawmills in the state would have harvested more timber in recent years if the U.S. Forest Service had made more available. Therefore, it appears that the amount of beetle kill wood harvested in recent years is primarily limited by the available supply of harvestable timber rather than a lack of demand for the wood from consumers. Since the Beetle Kill Wood Exemption is designed as an incentive to boost consumer

demand, it is less likely to be effective at incentivizing the harvest of beetle kill trees when the in-state supply of timber is already below the industry's capacity for harvesting and processing it.

Despite indications that the exemption has had a relatively small impact on the amount of timber harvested, the exemption may act as a more effective incentive in future years as the amount of usable beetle kill wood declines. As discussed, the number of acres of actively beetle-infested forest has declined substantially in recent years, though there remains a large amount of unharvested trees killed during prior years. According to stakeholders, as unharvested beetle kill wood ages, its quality deteriorates, making it less attractive to loggers and sawmills. Thus, it appears that in future years, more of the available beetle kill wood will be of lower quality. According to stakeholders, this lower-quality wood may still have some commercial value, but it is typically used to make products like wood chips and pellets, for which consumers may be more price-sensitive and can easily substitute for non-beetle kill wood products. Further, if loggers must travel greater distances to access usable beetle kill wood as it becomes more scarce, harvesting the wood also becomes more expensive, which could increase the prices for the products. Because of these factors, the amount of commercially valuable, unharvested beetle kill wood may decline, in which case the exemption could act as a more meaningful incentive to boost the demand and stabilize the price for marginal-quality and less accessible beetle kill timber.

WHAT ARE THE ECONOMIC COSTS AND BENEFITS OF THE TAX EXPENDITURE?

We estimate that this tax expenditure resulted in about \$483,000 of forgone state revenue in Calendar Year 2018 and a corresponding sales tax savings for consumers. To estimate this amount, we added the gross revenue from sales of the applicable beetle kill timber from Colorado's two largest sawmills, which according to the Colorado State Forest Service, make up about 80 percent of the market for processed timber with wood sourced from Colorado. We increased this amount by 20 percent to account for the remaining sawmills for which we lacked

revenue data. We then multiplied this amount by 36.2 percent, which is the proportion of Colorado's timber harvest sold in state, according to data from the University of Montana's Forest Industry Research Program. We then increased this amount, assuming a markup of 15 percent at the point of retail sale, and then multiplied the estimated sales price by the state sales tax rate of 2.9 percent.

In addition to the state revenue impact, the exemption has likely had a revenue impact in several local jurisdictions. According to statute [Section 29-2-105(1)(d)(I), C.R.S.], municipalities and counties with state-collected local sales taxes must generally conform to state sales tax exemptions. However, some state exemptions, including the Beetle Kill Wood Exemption, are optional for local governments with state-collected sales taxes and the local government must specifically adopt the exemption at the local level. According to the Department of Revenue, six counties (Douglas, Lake, La Plata, Mesa, Moffat, and Rio Grande) and three cities (Fleming, Granby, and Silverton) have adopted the Beetle Kill Wood Exemption. We lacked data necessary to quantify the revenue impact in these jurisdictions.

To the limited extent that the exemption incentivized consumers to buy products made from beetle kill wood or loggers and sawmills to harvest and process the wood, the exemption may have also helped to slightly lower the risk of damage from fires in the state. According to the Colorado State Forest Service, the presence of beetle-killed trees increases the risk of fire. In addition, Colorado has been at a higher risk of forest fires in recent years due to warmer and drier than normal conditions. According to the Colorado State Forest Service, in 2018, the State spent an estimated \$40 million for fire suppression efforts. In addition to the cost of suppression, fires also create financial impacts due to property losses, reduced tourism, and potential future damage to water supplies and infrastructure. Although the total cost of a fire can vary substantially, these costs can be large. For example, according to the Forest Health Advisory Council, the State of Colorado spent \$9.3 million to suppress the Black Forest Fire of 2013, which was the most costly fire in the State's history, with insurance losses exceeding \$420.5

million. However, because the Beetle Kill Wood Exemption appears to have had a only a small impact on the overall harvest of beetle kill wood, its impact on fire risk and costs is likely minimal.

WHAT IMPACT WOULD ELIMINATING THE TAX EXPENDITURE HAVE ON BENEFICIARIES?

If the Beetle Kill Wood Exemption were eliminated, it would increase the after-tax cost of Colorado-sourced beetle kill wood products purchased by consumers in the state by 2.9 percent (the state sales tax rate). As discussed, stakeholders report that some consumers specifically seek out beetle kill wood due to the tax exemption, so eliminating it could reduce consumer demand for some beetle kill wood products, especially those like mulch and wood pellets that are priced similarly to non-beetle-kill products and that are easily substituted based on price. However, for other products, like furniture, for which there appears to be strong demand for some beetle kill products due to their unique appearance, eliminating the exemption would likely have less impact on consumer demand.

To the extent that eliminating the exemption would reduce Colorado wood product sales, loggers, sawmills, and wood product retailers could see a reduction in revenue, though we lacked information to quantify the extent of this impact. According to information from the Department of Revenue, at least 24 wholesalers had submitted Form DR 1240 to certify that wood they were selling qualified for the exemption. In addition, based on interviews with retailers, we estimate that they had applied between \$4,000 and \$37,000 in exemptions to sales to consumers, which equates to a range of about \$138,000 to \$1,276,000 in beetle kill wood product sales for each of these retailers that could be impacted, to some extent, by eliminating the exemption. However, it is likely that if sales of beetle kill wood products declined due to eliminating the exemption, consumers would at least partially offset this decrease by purchasing other wood products instead.

ARE THERE SIMILAR TAX EXPENDITURES IN OTHER STATES?

The bark beetle epidemic, which includes pine and spruce beetles, has affected forests in 13 western states. According to our research, South Dakota is the only other state that offers a sales tax exemption for wood killed or infested with beetles. In contrast to Colorado's exemption, South Dakota offers a sales tax exemption for the service of removing pine trees infested with mountain pine beetles. The South Dakota exemption also only applies to pine trees infected with mountain pine beetles in certain counties on either private or public land.

ARE THERE TAX EXPENDITURES OR PROGRAMS WITH A SIMILAR PURPOSE AVAILABLE IN THE STATE?

We did not identify similar expenditures or programs related to increasing consumer demand for beetle kill wood.

WHAT DATA CONSTRAINTS IMPACTED OUR ABILITY TO EVALUATE THE TAX EXPENDITURE?

The Department of Revenue was not able to provide data on the amount of Beetle Kill Wood Exemptions claimed or the number of retailers who made applicable sales. Specifically, the Department of Revenue's Retail Sales Tax Return (Form DR 0100) does not have a separate line where retailers can report exempt sales of beetle kill wood. Retailers report the Beetle Kill Wood Exemption on a line for "Other Exemptions," which aggregates several unrelated exemptions and cannot be disaggregated for analysis. This data would allow us to provide a more accurate and reliable estimate of the revenue impact to the State.

If the General Assembly determines that a more accurate figure is necessary, it could direct the Department of Revenue to add additional reporting lines on its Retail Sales Tax Return and make changes in GenTax, its tax processing and information system, to capture and pull this additional information. However, this would increase retailers' reporting requirements and, according to the Department of Revenue, this type of change would require additional resources to develop the form and complete the necessary programming in GenTax (see the Tax

Expenditures Overview Section of the Office of the State Auditor's Tax Expenditures Compilation Report for additional details on the limitations of Department of Revenue data and the potential costs of addressing the limitations).

WHAT POLICY CONSIDERATIONS DID THE EVALUATION IDENTIFY?

THE GENERAL ASSEMBLY MAY WANT TO CONSIDER WHETHER THE BEETLE KILL WOOD EXEMPTION IS MEETING ITS PURPOSE TO THE EXTENT INTENDED. As discussed, we found evidence that the exemption may be providing some incentive to consumers to purchase certain beetle kill wood products. However, it appears that its impact on overall sales of Colorado-sourced beetle kill wood products is relatively small, since much of this wood is sold outside the state and there appears to be demand for some beetle kill wood products regardless of the exemption. Further, since according to stakeholders, the supply of harvestable timber sold by the U.S. Forest Service, which comprises most of the available beetle kill wood, has not met the demand for timber (of all types) from loggers and sawmills, it appears that much of the beetle kill wood being harvested would be harvested regardless of the exemption.

On the other hand, some stakeholders reported that the exemption was increasing demand for beetle kill wood products and could be especially important for supporting demand for older, lower-quality beetle kill wood. This older, lower-quality wood is likely to compose a greater proportion of the available timber in future years since the overall number of actively infested acres in the state has declined significantly.

THE GENERAL ASSEMBLY MAY WANT TO CONSIDER WHETHER THE BEETLE KILL WOOD EXEMPTION SHOULD INCLUDE TIMBER KILLED BY ADDITIONAL SPECIES OF INSECTS. Currently, the exemption is limited to trees killed by mountain pine beetles or spruce beetles. However, Colorado State Forest Service data shows that several other pests are having a significant impact on Colorado's forests as the number of acres infested by mountain pine and spruce beetles has declined. Exhibit 1.2 shows the number of acres impacted by type of pest in 2016 and 2018.

EXHIBIT 1.2. IMPACT OF INDIGENOUS PESTS OF COLORADO 2016 AND 2018			
INSECT/DISEASE	PRIMARY HOST TREE(S)	2016 ACRES IMPACTED	2018 ACRES IMPACTED
Mountain pine beetle	Lodgepole pine ponderosa pine	940	500
Spruce Beetle	Engelmann spruce	350,000	178,000
Douglas-fir beetle	Douglas-fir	19,000	14,000
Western Spruce budworm	Douglas fir true firs spruce	226,000	131,000
Western balsam bark beetle	Subalpine fir	122,000	24,000
Fir Engraver beetle	White fir	6,300	1,400

SOURCE: Colorado State Forest Service.

Although including additional types of insects in the exemption could increase its revenue impact, we lacked data to determine the extent of this impact. However, since the impact of the mountain pine and spruce beetle has declined in recent years, this decline may offset the revenue impact of expanding the exemption to cover additional insects.