



South Dakota
Department of Agriculture
Division of Resource Conservation & Forestry

Mountain Pine Beetle Initiatives

By

Raymond A. Sowers, Director/State Forester

The Division of Resource Conservation and Forestry has the duty to provide advice and assistance on forest health issues within South Dakota. Consequently, the division began to call out, **“the beetles are coming, the beetles are coming.”** And, they came!

The Black Hills of South Dakota is experiencing the worst epidemic of mountain pine beetles (MPB) in recorded history. To date, more than 450,000 acres of forestland representing almost 1/4 of the Black Hills are infested with these beetles.

This epidemic began in the late 1990's in the Beaver Park area south of Sturgis. This epidemic has grown to an enormous size. It has spread down the central part of the Black Hills and can now be seen from Spearfish in the northern Hills to Custer in the southern Hills.



Mountain pine beetle preparing to fly.

Mountain pine beetles are endemic to the Black Hills. They evolved alongside the pine trees and they have been part of the current ecosystem for as long as the current forests have existed. These beetles have a very specific niche in the Black Hills. They are nature's thinners. They key on large trees in dense stands. When there are lots of over mature and thick forest stands, MPB will change from attacking single trees or small groups of trees to attacking all trees over large areas of the forest. In a way, they help to maintain a healthy and vigorous forest - just like wolves serve the purpose of removing the sick and weak from a buffalo herd. It is a natural process.

What is not natural is the current condition of our forests in the Black Hills. The public, all of us, have demanded that we keep the largest trees in thick stands because we like the way they look. But, that is not the healthiest way to maintain a forest ecosystem. There must be all age classes of trees. There needs to be a variety of forest stand condition from very thin to thick. There needs to be a good mix of tree and shrubs. In general, the forest ecosystem must have balance. The beetles are creating that balance since we, the public, would not allow forest managers to manage our forestlands in a manner that would keep them healthy.

Should we try to kill all MPB? No, we should not. What we need to do is manage our forests in a manner that will keep them healthy and vigorous. When we allow forests to get too thick and unhealthy, MPB will expand in population to a point where an epidemic kills many trees. This is good from a forest perspective but it is not so good for people and our homes. With massive amounts of dead timber in the forest, we have created the perfect conditions for



Stand of large ponderosa pine in Custer State Park infested with mountain pine beetles.

catastrophic wildfires. These conditions combined with more people living within our forests, we have a stage for the “perfect storm” – large wildfires that can and will destroy homes, and businesses as well as the timber that our forest industries need to survive and prosper. It will also destroy our tourist industries that drive the local economy.



Black Elk Wilderness adjacent to the border with Custer State Park, circa 2004-2007.

So, what have we done about it? The state took notice of large pockets of beetles in the Black Elk Wilderness Area bordering Custer State Park in the fall of 2004. As a result of our concern, the Division of Resource Conservation and Forestry met with Custer State Park to discuss this situation and develop a plan of action to protect the park from this imminent threat. This plan called for buffer zones around the boundary of the park to limit the ability of beetles to move directly into the park from surrounding lands. We also began an aggressive program to identify and treat every infested tree within the park before the beetles in those trees matured and emerged to attack more trees. Our efforts over the past 10 years have been successful in maintaining MPB populations at endemic levels.

By 2010, infestations on federal land were starting to impact private lands within the central Black Hills. Therefore, the Division of Resource Conservation and Forestry began a small-scale program, made possible by a grant from the United States Forest Service, to help private landowners to locate, cut, and treat MPB infested trees on their property. This project laid the groundwork for a much larger program that followed.

In August of 2011, the Governor held a field tour and media event in the central Black Hills to launch his **Black Hills Forest Initiative**. This initiative picked up where the earlier project ended. It provided the means for many more forest landowners to fight MPB infestations on their own lands. That fall, we determined that Custer State Park had experienced an inflight of MPB out of the Black Elk Wilderness and the Norbeck Wildlife Preserve that deposited millions of MPB in the main body of Custer State Park. The Division of Resource Conservation and Forestry in cooperation with Custer State Park, took immediate action to survey the entire park to determine the extent of the incursion and to develop a plan to address the problem. That plan was presented to the Governor in late October and the **Custer State Park Initiative** was created.



An aerial photo of the Black Elk Wilderness showing the devastation, 2011.

In 2012, the State Legislature approved a special appropriation of \$6.1 million - \$4.0 million for the Black Hills Forest Initiative and \$2.1 million for the Custer State Park Initiative. Both initiatives were approved for a three-year period and will end in the near future unless additional funds are appropriated.

All the emergency funds will be spent by June 30, 2014, and the following the following summary outlines our accomplishments:

	Units	Private Lands	State (CSP)	Total
Survey & Mark	Trees	384,117	180,156	564,273
Cut & Treat	Trees	286,366	174,909	461,275
Spraying	Trees		4,578	4,578
Buffer Thinning	Acres		1,143	1,143