

Wyoming Bugs

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Well you can sort of see the different colors of the needles. The darker red needles are ones that have been killed two years ago. The ones we see fading that have a little bit of green left but has a yellowish tinge to it, those were killed last year. Typically takes about eight to ten months for that tree to turn red. If you pan to the left, you see a tree that has a little bit of green and red needles. That tree was hit a year ago.

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Well the mountain pine beetle epidemic started in Colorado probably about six years ago. It's grown at a fairly fast rate because of the mild winters and the amount of food that's available for them. We've seen the growth of primarily acres, almost double each year since its initial infestation.

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I use the word the "perfect storm". There's really three factors that allow for an epidemic to go and one is the bark beetle population. The other factor is weather conditions. And because we've been under a drought, and the fact that we've had mild winters has allowed the beetle to flourish. And then the third factor is really the forest or the stand conditions in the woods. And that's really, to look at what makes a perfect tree for a bark beetle, is trees over eight inches and older than eighty years old.

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If we look back at the turn of the century, we had tie hacking[?] going on, we had mining going on. We had western expansion for the demand of wood products so there was a huge demand of wood products at the turn of the century so we saw a lot of cutting at that time so there's a huge number of trees that are in the same age class. And they're all at 100-120 so that sets the stage again for the three components of: you have a high bark beetle population, you have the weakened tree because of the drought and the weather conditions, and you have a tree that is 120 year old, similar age class and thus provides a really an almost unlimited amount of food source for the bark beetle.

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You know, in Colorado for example, there's 1.5 million acres of lodge pole pine. As of the end of 2006, we had about 660,000 acres. In the Medicine Bow National Forest, epidemic has come across the line, down near the communities of Fox Park and Encampment, in the Saratoga Valley there. We have about 75,000 acres across probably a million acres of the national forest. So all of that sounds like a small amount but the number is just growing fast.

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We did an analysis of the landscape, how much of it is in lodge pole pine and how much of it really needs that older stand or age class or age that's more susceptible for bark beetle. It looks like about a third of that, about 350,000 acres of that million acres is susceptible to bark beetle. So will it go that big? You know that's kind of unknown.

That's what we're monitoring but potentially it will. As of right now, other than that the weather conditions change, that's really the only thing that would stop it from going to a larger third of the national forest.

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Now lodge pole is, like you saw in Yellowstone, evolved through disturbance cycles. And be it a large wild land fire like you see across the west and Yellowstone is a good example. Lodge pole pine seedlings, the seed source for the lodge poles sit on the forest floor and once the trees are removed you see a flusher regeneration so we're fairly comfortable and confident that the stands will regenerate in new lodge pole stands.

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We'll also see aspen stands which are sucker sprouts, they sucker from the root systems. We expect more aspen groves to come up under these dying stands. So we will see a new forest, or a next forest coming on so we are looking at ways to deal with increasing diversity and a more resilient national forest.

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Well these are the pitch tubes that you usually see in a lodge pole pine stand that's been infected by the bark beetle. This is kind of, this is the natural defense that the pine tree uses to drown the invading bark beetle. If you look closely, there is actually some sawdust in there so if the beetle has been able to get into the tree, and if you look closely, you actually see emergent holes. And these are smaller holes, there's no sap around them but again the biology of the bark beetle, it flies in July and August, it bores into the tree and then works underneath the bark, laying its eggs or larvae along in the floam of the tree. The larvae then expand out and eat the inner part of the bark which is called a floam, which is their food source.

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But also the bark beetle introduces the blue-stain fungus. You see that here in the outside, it has a bluish tones. That fungus then expands and grows inside the tree and actually shuts down and closes the transportation of water. Of course the forest service is mobilizing different resources to deal with the impacts of bark beetle. We may not be able to stop the epidemic but we can sure do a lot of things to mitigate the impacts.

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There's three primary, three areas that we are focused on. Our number one priority is to work with communities and other partners, state agency and so forth to work at ways to minimize the risk for catastrophic fire around communities. So that's our first priority. We are working on increasing timber sales, or a few reduction projects around communities.

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The second priority for us, and also a top priority, is for example, this campground. We have infestation killing a lot of the trees and so those trees ultimately will be falling down

and so we have mobilized a lot of resources to mitigate the impacts of mostly a public health and safety issue with the potential of these trees falling down.

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The other is things like trails. We have power lines across the forest. We have electronic sites. There's a variety of infrastructure in the national forest that we want to work on to mitigate impacts to, or from the bark beetle.

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Our third priority, although less, it's still important for us as land stewards, we want to look at what the next forest will bring. What can we do to increase the diversity and provide a forest for our future generations as far as what will come after this large scale landscape changing event.

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We want to do everything we can to protect the forest or mitigate the impacts but really the epidemic is at such a scale that we really can't stop it. We're really just resetting the deck but it's going to be the same conditions at which someone in my shoes will be dealing with a hundred years from now as we are so our goal of the next forest is to increase the diversity. And again a healthy forest is our ultimate goal. We want a healthy forest and a vigorous forest that will produce clean water, be more resistant to insect and disease infestation and catastrophic fires. So a healthy forest is a goal and that's one that we're striving towards. **00:09:21 End.**