Wild Lands Advocate 14(6): 22 - 25, December 2006

War on Pine Beetle May Sacrifice Caribou, Protected Areas

By David Samson, AWA Conservation Specialist

The mountain pine beetle (MPB) is far from being an endangered species, but in its single-minded war on the beetle, the Alberta government is poised to sacrifice one – the woodland caribou. The government's recent decision to direct forestry companies to clear-cut in critical woodland caribou habitat in West Central Alberta may in the long run do more economic and ecological harm than good, including damaging our parks system, Alberta's ecological "Heritage Trust Fund" and foundation for significant tourism revenue. The province's oft-declared "war on MPB" may be more of a political than scientific strategy: it gives the appearance of taking effective action.

The Stakes are High

The Alberta government recently told the government-commissioned Alberta Caribou Committee (ACC), mandated to develop a recovery plan for endangered woodland caribou, that Sustainable Resource Development (SRD) has directed forestry companies such as Weyerhaeuser to clear-cut in critical woodland caribou habitat in the Eastern Slopes Narraway River region of West Central Alberta. This relatively pristine region is already inundated with oil and gas activity.

"If we don't stop this insane approach to forest management now, Alberta will have sealed the fate of these caribou − they will simply vanish from this area over the next 10 years," says Cliff Wallis, an ACC member and Director and Past-President of Alberta Wilderness Association (AWA).

Also at risk may be our provincial parks. Ken Zurfluh, Northwest Area Manager of Parks and Protected Areas, Alberta Community Development (ACD), oversees Kakwa Wildland Provincial Park (WPP) adjacent to the Narraway River region. "Forestry had identified 460 infected trees, but the numbers have increased way beyond that," he says.

ACD has agreed in a Memorandum of Understanding (MOU) to work with SRD in addressing MPB in Kakwa. MPB control methods employed to date have involved moving personnel in with helicopters and cutting and burning selected individual infected trees − an extremely costly method of trying to control MPB.

SRD and ACD are now "considering other strategies in Kakwa," but Zurfluh does not yet know what those might be. Even though he says no plans are in place for clear-cut logging in Kakwa WPP, given SRD's bellicose MPB strategy, that possibility cannot be ruled out. Zurfluh says the MOU between ACD and SRD "doesn't rule out mechanical sanitation cuts," but he also stipulates that he "wouldn't like to see it." By extension, Willmore Wilderness Park (WWP) may be equally at risk to clear-cut logging.

Zurfluh also emphasizes that a "one-size fits all" strategy for managing MPB may not be the best option and that a "tailored approach" for each area may be a more favourable one. He points to the Willmore Wilderness Park (WWP) Fire Management Plan as a good strategy, and Parks and Protected Areas hopes to broaden that plan to include Kakwa WPP. The Willmore plan, an exception to Alberta's forest management policy on fire suppression, focuses on setting the conditions in Willmore, where natural processes and ecological diversity are the best defences for forests against fire and insects (*WLA*, April 2006).

Alberta Wilderness Association
Box 6398, Station D,
Calgary, AB T2P 2E1
Phone: (403) 283-2025 Fax:(403) 270-2743

Parks Canada's Approach to MPB

There is a fundamental difference between the Alberta government's valuation and protection of provincial parks and that of Parks Canada, where the focus on ecological integrity is paramount. Parks Canada's "Guiding Principles and Operational Policies" states that provided that park ecosystems will not be impaired, the manipulation of naturally occurring processes such as fire, insects, and disease may take place when no reasonable alternative exists.

By placing ecological integrity and science-based adaptive management at the forefront of management directives, Parks Canada is committed to managing problems like MPB in an ecologically responsible manner. The Alberta government is prepared and legislatively able to place economic values first, which allows it to use our parks as a battle zone to protect commercial forest interests. Zurfluh says evaluating economic versus ecological impacts is a key part of determining which MPB strategy is employed.

Dave Dalman of Parks Canada has been involved with a joint provincial-federal Eastern Slopes Strategic Forest Management Plan. He describes the first, but very critical, step in Parks Canada's approach to MPB: defining the problem. This may be the most significant difference between the approaches of Parks Canada and SRD. The former have identified the problem as "old trees," not MPB, and are tailoring a long-term strategy based on this identification. SRD has identified the problem as MPB and has declared war, sweeping the forests and wildlife onto the battlefield.

Intentionally or not, in his recent article "Keeping the Bugs at Bay" (*Alberta Venture*, June 2006), environmental journalist Jeff Gailus may have revealed another key problem with Alberta's strategy: the inability to commit to innovative ways to approach this problem. In highlighting Alberta's zero-tolerance approach to MPB, he quotes SRD Minister David Coutts: "We're treating this like a slow forest fire and any time we have a forest fire, we have to fight it." Ironically, scientists generally agree that Alberta's aggressive fire-suppression policy has been one of the most significant factors in creating the conditions for this massive and sustained MPB epidemic.

SRD's decision to clear-cut susceptible lodgepole pine, which covers large areas due to decades of fire suppression policy and includes critical woodland caribou habitat, may very well be an unfounded, costly, high-risk (ecologically), and ultimately unsuccessful strategy. Woodland caribou prefer mature, coniferous forests containing lichen as a food source. Research in B.C. suggests caribou do poorly after clear-cutting but are positively affected where fire has opened up the forest. "We have an unproven method of killing pine beetle competing with a proven method for killing off caribou, so our choice is quite clear," says Wallis.

Limited Brands, owner of Victoria's Secret, also has expressed "serious concerns" with the plight of woodland caribou. In a December 6 statement, they announced they will partner with their primary paper supplier to eliminate all pulp supplied from Alberta's Rocky Mountain Foothills forests, including product from West Fraser Timber Ltd. The company's new policy seeks to prohibit sourcing paper from Endangered Forests in the Boreal, and provides other measures that will decrease impact on the Boreal as a whole, which provides critical habitat for caribou. These standards and concerns would in effect exceed those of the Alberta government, which is forcing forestry companies to clear-cut in woodland caribou habitat.

SRD is taking a radical, simplistic approach to a complex ecological problem and applying it widely over the landscape. The short-term, unproven clear-cutting strategy is now taking centre stage in SRD's decisions, including a potential focus on Alberta's parks as a battleground. MPB is well-equipped to overwhelm virtually any amount of resources the government is prepared to throw at it. Many others, including the B.C. government, have already learned that expensive lesson the hard way.

Alberta Wilderness Association
Box 6398, Station D,
Calgary, AB T2P 2E1
Phone: (403) 283-2025 Fax:(403) 270-2743

SRD rarely highlights a long-term strategy to address the root causes of the MPB epidemic. Scientists have identified factors such as prolonged drought, which weakens trees' defences; decades of fire suppression; and global warming as setting the conditions for this massive outbreak, which may very well have been inevitable as a result. The key to minimizing the impact of such outbreaks in the future appears to be re-establishing balanced forest structure, vegetation, and fire regimes in all of our forests, not just in our protected areas.

Although some have laid the blame for the MPB epidemic on B.C.'s reluctance, due to pressure from the public and environmentalists, to aggressively attack the incipient MPB attack in Tweedsmuir Park, B.C. Environment's website states that the MPB "epidemic in Tweedsmuir was only one of the many places that this epidemic started." Many other epicentres (MPB hot spots) were in old-growth forests outside of B.C. parks.

Other Options

Rather than declaring an all-out war on MPB wherever it occurs − which it does naturally in pine forests – other jurisdictions in North America have taken different approaches. In discussing the federal government's basic strategy, Dave Dalman of Parks Canada refers to the "operating guidelines" mentioned earlier. Parks Canada proceeded under the direction that they "cannot irreparably harm the ecosystem," a direction that forms the baseline for their regional forest management strategy. Having defined the problem as "old trees," they approached it by considering broad landscape objectives, and importantly, cumulative effects.

Since fire as a natural process has been missing due to decades of fire suppression, Parks Canda used historic fire cycles to arrive at their overall goal in parks: to "restore 50% to natural fire cycle." They assessed the condition of the forests as "not being normal now" and decided that the forests need a more diverse composition and age. Interestingly, Dalman takes a positive approach, saying that "MPB has spurred this objective" of habitat restoration to more normal conditions and that Parks Canada has chosen prescribed fire as the key tool.

Although it is too early to draw any conclusions, Parks Canada has seen some positive results. Their initial research shows that their approach appears to be "having a modest effect," says Dalman. But he is quick to point out that not only is it not conclusive that their strategy is working, but the south (Banff/Jasper) has different conditions than areas in the north.

Parks Canada staff are seeing substantial reductions in MPB populations in Banff and Jasper, where they have burned trees. They are also observing higher predation and higher winter mortality of MPB. Key to their adaptive management strategy is continuing intensive monitoring and prescribed burning. Dalman also stresses that they have been "very public" in communicating the MPB problem and their long-term strategies.

Underlying Parks Canada's approach seems to be the assumption that 1) MPB exists naturally and can never be eradicated; 2) a measured, adaptive, long-term approach to the problem is necessary; and 3) restoring and maintaining ecological integrity in the process is fundamental to future success.

Dalman is concerned about any type of "scorched earth" approach, especially as conditions over the landscape can vary widely. He notes that Banff and Jasper have different conditions and that Parks Canada's current work has managed, so far, to see MPB spread in a more normal, controllable pattern. The areas further north around Grande Prairie, however, have seen much more random, widespread distribution of MPB, possibly due to different atmospheric conditions that have allowed MPB to travel great distances because of strong winds: MPB flights have actually been picked up on radar.

Alberta Wilderness Association
Box 6398, Station D,
Calgary, AB T2P 2E1
Phone: (403) 283-2025 Fax:(403) 270-2743

Lastly, Dalman acknowledges the challenges that Alberta faces. The B.C. experience has been interpreted by some as indicating that the MPB strategy needs to be one of acting early and getting the logs out earlier. The problem, however, can be in addressing the epidemic with a single purpose – saving the timber resources. This can produce a whole host of negative collateral effects on the economy and the landscape, including increased road density and access. The challenge may be balancing that purpose with many other values.

The Voices of Experience

Jack Kendley, a silviculturist with the Helena National Forest (Montana), described in the *Independent Record* (2003) the important role that MPB has in healthy forest ecology, even though MPBs kill trees. “Traditionally, a lodgepole pine gets old, the mountain pine beetle kills it, lightning strikes the dead tree and the forest would burn,” Kendley says. “The fire releases the seeds from the lodgepole pine cones and the species is renewed.”

“They are native insects – they weren't introduced – and in an ecological sense they can have a positive effect,” entomologist Ken Gibson says. “But when the population gets too high, they get into something that we want to preserve in the forest, whether it’s a hiking trail or a tree in your yard. Then it’s a problem.”

In discussing possible solutions, Kendley and entomologists Gibson and Nancy Sturdevant note that it’s not feasible, nor desirable, to wipe out all of the MPBs; instead, they believe that better forest management is warranted.

Thinning the forests is one of the best tools, Kendley says. But Kendley, Gibson, and Sturdevant are quick to note that clear-cutting is part of what led to the problem. Removing all the trees from an area, then replanting it, means all the trees are the same age and are vying for the same limited amount of nutrients. That stresses the trees, which can make them vulnerable to infestation. Instead, the trio of forest service workers says the forests could be thinned, not necessarily by commercial logging but possibly through smaller cuts using hand tools or through prescribed burns.

The United States Forest Service (USFS) has also been dealing with MPB problems for many years. Although SRD believes that clear-cutting is an effective tool for managing the MPB outbreak, a non-profit group based in Portland, Oregon reviewed more than 300 scientific papers and documents from the USFS and came to a different conclusion. Jeff Gailus notes that the Xerces Society for Invertebrate Conservation “contends there is no evidence that logging can control bark beetles or forest defoliators once an outbreak has started.”

Gailus quotes Scott Hoffman Black, executive director of Xerces, as stating, “The findings are very clear. Logging is not the solution to forest insect outbreaks, and in the long run could increase the likelihood of epidemics.”

At What Cost?

Is clear-cutting in critical wildlife habitat what the public would like to see? According to social science researcher Bonnie McFarlane, who is with the Canadian Forest Service in Edmonton, the public is not comfortable with these extreme MPB strategies. In 2004 she surveyed 2,000 visitors and residents in Banff and Kootenay National Parks and in Calgary.

“The survey showed the public embraces less aggressive methods of treatment of the mountain pine beetle,” McFarlane says. “They prefer taking out or burning smaller pockets of infected trees, rather than

Alberta Wilderness Association
Box 6398, Station D,
Calgary, AB T2P 2E1
Phone: (403) 283-2025 Fax:(403) 270-2743

large-scale harvesting treatments. Respondents are in favor of controlling the outbreak of the mountain pine beetle, but not at any cost."

The MPB epidemic is developing on a continental scale and the government is trying the same things that have not worked elsewhere. The lengthy time period over which this problem developed make it nearly impossible to address this problem with short-term strategies like clear-cutting in large areas of susceptible pine.

It has taken us 100 years of fire suppression to create the conditions ideal for the MPB epidemic, and a successful response may take 50 to 100 years of objective, science-based adaptive management to ensure that the forests are well-equipped with their natural defences to combat MPB on their own. The window of opportunity to start that long-term process, however, has opened now.

"We all hope that Mother Nature kicks in and that there is a population collapse," says Wallis, referring to the best beetle control method: sustained temperatures near -40 degrees Celsius. "Having 'hope that Alberta can forestall a disaster' is quite different than actually being able to do it. We can all have faith and pray that something will happen, but that doesn't mean it will. The science tells us what is happening and likely to happen. As you know, the defence lines in Alberta have NOT stopped the outbreak or some major leapfrog events."

If there is no short-term solution to this problem, it will not help matters to pretend that there is by spending millions of dollars unnecessarily and destroying endangered species and habitat, only to have future generations encounter the same problems with our forests that we are experiencing today.

In his recent book *Collapse*, which examines the reasons for past societies' failures or successes when faced with environmental changes, whether human-induced or not, Jared Diamond observes, "Two types of choices seem to me to have been crucial in tipping their outcomes towards success or failure: long-term planning, and willingness to reconsider core values."

Diamond describes the type of choices we must make if we are to succeed. Those choices that have been successful "depended on the courage to practice long-term thinking, and to make bold, courageous, anticipatory decisions… This type of decision-making is the opposite of the short-term reactive decision that too often characterizes our elected politicians."

The MPB epidemic may provide us with the opportunity and incentive to look seriously at long-term solutions, make courageous choices, and re-evaluate our values of wilderness and wildlife so they do not get shoved aside by economic decisions.

Alberta Wilderness Association
Box 6398, Station D,
Calgary, AB T2P 2E1
Phone: (403) 283-2025 Fax:(403) 270-2743