

HIGH STAKES POKER WITH THE JOKER WILD

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FIRE RISK AND ROADLESS AREAS

As I write this, it is early August in Montana. The indicators on the roadside signs advising of fire danger levels point to “extreme.” Fire crews are more than earning their keep, and there seems to be a constant drone overhead emanating from multi-engine tanker aircraft shuttling back and forth between their Missoula base and some fire or another. The planes carrying smokejumpers to fires in remote areas are also seen from time to time. Smoke plumes are visible on the horizon in several directions, and, when the wind shifts, smoke accumulates in the valleys and produces red eyes and irritated throats as reminders that forests are burning.

Resources of firefighters and material are already stressed to the limit. The National Guard has been brought into service and regular military personnel have been called to fire-fighting duties. And the real fire season still lies ahead. There is a message here.

So far, the incredible efficiency of the wildland fire fighters has prevented hundreds of small, mostly lightning-started fires from growing beyond a few acres. But bigger fires are burning, with one fire near the head of the Bitterroot River burning well over ten square miles of forest and openings.

No doubt about it, the wildland firefighters from the various agencies—local, state, and federal—are good at their jobs—amazingly good, in fact.



But, so far, they have also been amazingly lucky. No sustained winds have swept in behind the thunderstorms that spawned the dry lightning that ignited most of the fires. The lack of wind, along with breaks in the weather, produced circumstances where the fires have spread relatively slowly. This provided time for the crews to move from one small fire to another, scratch fire lines around each one, then watch the fires consume themselves. Other fires have been battered into submission by water and retardant drops from helicopters and antiquated air tankers that are older by far than most of the firefighters. The fires are then "mopped up" so that no smoldering hot spots remain to be reignited by the winds that will come sooner or later.

Simultaneously, throughout the West, there is another fire raging of quite a different sort—a firestorm of the political variety. The U.S. Forest Service, as instructed by the President of the United States, has proposed the largest single land allocation action in the last half-century. It has been formally proposed that all areas of the national for-

ests (excluding those in Alaska) of 5,000 acres or more that do not contain a road be maintained in that condition—these lands are to be administratively designated as "roadless." This decision affects the long-term status of some 54.3 million acres.

Battle groups are forming on each side of this "line drawn in the sand." Environmentalists are supportive, but disappointed. Some—likely most—want all areas of 1,000 acres or more placed in roadless status. They want the decision extended to Alaska as well, where a multi-year planned process has just been completed. If Alaska were included, the total acreage involved would increase dramatically. Some want all management activities that involve any manipulation of vegetation in such areas precluded. They applaud action being taken at a national level as opposed to being carried out on a national forest by national forest basis. Polling seems to indicate (even considering "loaded" polling questions) that the roadless area proposal is politically popular, even in western states with the most national forest land. Environmental activists have been largely successful in dominating public hearings and in delivering tens of thousands of pieces of supporting mail.

Those that stand on the other side of this line in the sand are bitterly opposed for a variety of reasons. Those with ties to the timber industry view the result as a significant reduction in the lands available for the extraction of wood products. Some resent that there will be no new roads to provide access for those who, due to physical limitation, cannot walk into these areas. Users of off-road recreational vehicles fear that these areas will be placed off-limits to their use.

Others objected to the process itself of declaring these areas "roadless," which they consider suspect, unprecedented in magnitude, and probably illegal. There are declarations that this process was not in keeping with the intent and spirit of the National Forest

Management Act, which directs that planning decisions be made one national forest at a time, with local citizens having a more significant part in the process than "outsiders." It has been proposed that this effort will produce *de facto* additions to the Wilderness System that have not been, and would not likely be, achievable through Congressional action.

Judging from news stories, letters to the editor, advertisements, and conversations, those opposed feel that the public hearings and associated activities were merely an elaborate ruse to comply with the law, show concern over public opinion, and afford a platform for activists in support of a foregone conclusion. This feeling was forcefully demonstrated in the public hearing held in Missoula in late June. Several hundred people gathered in the hearing room, where testimony was largely dedicated to supporting an increase of roadless areas beyond that recommended by the Forest Service. In contrast, several thousand gathered outside the hearing room displaying both opposition to and disdain for "the system."

So, there were two fires burning in western Montana in August of 2000—real fires and political fires. Both of these fires burned hot, and both had potential for increased intensity and spread. Closer examination reveals that the two "fires" have some things in common. Wildfire may well be the "wild card" in this ongoing debate over national forest management.

To understand that statement, it is probably necessary to take a short detour into history. During the period of 1890-1910, massive wildfires in the Lake States, northern Idaho, and other states had a dramatic impact on the fledgling U.S. Forest Service. Wildfire became the agency's "Public Enemy Number One." As time passed, efforts at wildland fire suppression became more and more successful. They improved dramatically after 1945 with full development of such innovations as smoke jumpers, air tankers—fixed wing and helicopter—spe-



cialized equipment, increased cadres of trained and conditioned fire fighters, and ever-improving organizational capability involving all federal land management agencies with state and local counterparts. Some historians maintain that the Forest Service gained much of its initial fame and credibility from its increasing capability at fighting wildland fire.

For much of that time the Forest Service's attitude toward wildfire was exemplified by the "10 A.M. Fire Policy." Under that policy every fire was to be attacked and brought under control by 10 A.M. of the day after the fire was reported. That goal was not always achieved, but it was the policy, and failure to meet the policy was not for lack of trying. Such a policy made good sense in an era when standing forests were considered as raw materials in a warehouse that should be protected until cut and utilized. Prevention of fire was a prevention of waste.

Obviously, preclusion of fire in unmanaged areas was inexorably leading to accumulation of dead wood and the development of densely stocked stands at a much higher rate than when "natural" fires burned through the forests at varying intervals. But those fire-prone conditions were to be addressed when the stands were "brought under management."

Was that a valid assumption? Examination of the track record yields an answer. That answer is, inescapably, "sometimes."

"Bringing stands under management" (i.e., putting roads into the area, logging the stands, treating the slash, regenerating the stands, and establishing and carrying out a silvicultural regime) often did not work out as planned. Many of those stands are now as prone, or even more prone, to be destroyed by fire than those that were never treated. Other stands, where the manager's ecological understanding was good and treatments were applied with fire in mind, could serve as textbook examples of good stand management. Results can now be evaluated as a

mixed bag ranging from excellent to poor.

For example, in open ponderosa pine stands, too frequently the logging was of the "pick and pluck" method whereby only the more valuable pines were removed—and none of the occasional, lower-valued firs. Logging residue ("slash") was sometimes not adequately treated. Firs, which often quickly dominate these sites in the absence of recurrent ground fires, seeded vigorously in soils disturbed by logging. These firs could have been the crop trees of the future in a scenario wherein fire was excluded and the firs thinned at periodic intervals. Too often the subsequent stand treatments never took place, and the resultant overstocked stands are now dominated

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by relatively young firs.

Traditionally, administrations and congresses have been much more enamored of building roads and cutting trees than they were of growing new trees and keeping up road systems associated with past logging activities. The consequences of the "get out the cut" era with their associated externalities (costs not accounted for in an initial action) have produced the present set of circumstances characterized by an \$8.5 billion backlog in road maintenance and thousands of stands that should have been thinned.

Roadless areas are not created—they simply are. What we create are areas with roads.

The decision and the political firestorm are really about the future management of those areas. The issue is symbolic of the winds of change that have swept and are sweeping the West. Logically enough, most past timber sales were located where the economic analysis indicated the best return (or the least loss). This was largely correlated to the quality of the timber, the relative ease of extraction, and construction of the necessary road sys-

tem—i.e., relatively gentle terrain and reasonable distance to the mills. In other words, roadless areas are usually roadless for a logical reason. It simply made no sense to build roads into most of the areas—economically, ecologically, and politically. Recent congresses, which have become more sensitive to "below cost" timber sales and to rising environmental concerns, have made it clear through budget actions that the Forest Service is essentially out of the business of constructing new roads into roadless areas.

So, in one sense, the action underway to designate these areas as "roadless" is both a political exercise and a too-long delayed recognition of realities.

The discussion that follows is germane whether or not the current

Forest Service initiative related to road management succeeds or fails. Large roadless areas coupled with the consequences of many decades of successful fire suppression present a serious problem that must be faced.

Clearly, the presence of road systems from past logging activities has created a different situation for fire danger in areas that have roads in contrast to areas that do not. The roads, for all their negative environmental aspects, do, without question, allow easier, more affordable, and safer access for stand management activities (including controlled burning), fire suppression, and recreational activities.

It has been said, "If you want to make God laugh, tell him your plans." As the decades passed, change was constant. The timber cut from National Forests surged from some 3 billion board feet per year in the late 1940s to over 12 billion board feet per year in the late 1980s. This was followed by a decline to about 3 billion board feet per year today. It has now become obvious that, at least for the foreseeable future, tens of millions of acres of forests so carefully protected from fire for so long will

not be logged nor the vegetation manipulated in any form.

The assumptions concerning how fuel accumulation and overstocked stand conditions would be addressed to reduce risks of fire and insect outbreaks are no longer valid. Some areas have been allocated to wilderness. Increasing environmental concerns put numerous other areas off-limits to ma-

thereby, cause significant soil damage. Then there are the social and political problems associated with "letting nature take its course."

When I was Chief of the Forest Service, I quickly comprehended the significant difference in discussions about fire with congressional committees depending on whether these discussions took place in winter or summer. Wintertime discus-

The real problem, the time bomb, which few recognize and for which no one takes responsibility, are the conditions which made such a large, hot fire not only possible but inevitable. Why were the homeowners and the managers of the Los Alamos reserve not prepared for the fires that simply had to come? A more frightening aspect, both of fire danger and vulnerability of

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structures, is that such conditions are common over much of the public land/private land interface, and are getting progressively worse with new construction of

nipulation, such as buffers for streams. Increasing environmental concerns, such as buffers for streams, put numerous other areas off-limits to manipulation. The clear signals from the administration and congress were that funding would not be made available to cover the externalities of cutting timber. In other words, the road system would not be maintained—not now and probably never—and silvicultural treatments for regrowing stands too often would not be executed as planned.

That leaves forest managers, and the American people, with a large and growing problem—a problem that, in my opinion, will make the political fires flaring up in arguments over roadless areas ("to be or not to be . . .") seem relatively insignificant and overly simplistic. That problem is how to deal with the wild card of wildland fires in landscapes without roads where significant manipulations of fuel and vegetation will not happen due to economic and logistical considerations, and the likely objections from some environmentalists.

There are several schools of thought about what to do. Some say "let nature take its course." But what of concerns about fuel accumulations, overstocked stands, and the "ladder fuels" (smaller understory trees that take fire up into the canopy of overstory trees) that may well produce crown fires? Coupled with the ground fuels, such fires will burn much hotter than fires have done historically and,

sions about wildfire and use of controlled fire, prescribed burns, and other aspects of fire management were calm, reasoned, and polite. But in June through August, when the fires were burning in forests and rangelands, it was quite another story. The phone calls came fast and furious from elected officials at all levels of government demanding more action on one fire or another. Suddenly, money was no object. I always thought it a shame that budgets were considered in winter and spring rather than in the dog days of summer.

Then there are those who believe that controlled use of fire (prescribed burning) will be the panacea. In reality, it is more likely that prescribed fire will be severely limited in application due to economic and logistical limitations, and social and political tolerance.

Some controlled burns will get out of control, and some prescribed burns have unexpected side effects. When that happens, there is political and fiscal "hell to pay" for the mistakes, and demands are made to produce a scapegoat. The recent, escaped, controlled burn in the National Park Service's Bandolier National Monument, now known as the Los Alamos Fire, is an example. In that case, the federal government immediately assumed responsibility for the 200 or so homes destroyed. If the fire had started via a lightning strike—which, almost inevitably, would have happened sooner or later—there would have been no liability to the government.

homes and increasing fire danger.

Due to the inherent difficulty and danger of fighting wildland fires, the situation is particularly acute in roadless areas—especially where such areas are very large in size, either standing alone or adjacent to wilderness areas. In such cases, there are only two ways for firefighters to get to the fire—by air and on foot. And, perhaps more important in terms of safety, there are only two ways to extract the firefighters from danger if things turn sour—by air and on foot. Equipment and supplies must be delivered the same way—by air, packed in on horses and mules, or carried on the backs of firefighters. Fire-fighting capability is limited to what the firefighters can do with chain saws, shovels, pulaskis, and water and retardant drops from the air—if weather and terrain permit. Bulldozers, pumper trucks, etc., are simply not available.

Firefighting in such circumstances is a very dangerous business. Experiences at Mann Gulch and Storm King Mountain, where young lives were lost, taught tough but lasting lessons about fighting fires in rugged landscapes characterized by unbroken fuels and no roads. Entrapment of firefighters in unroaded areas is more of a risk than in roaded areas due to limited mobility, relative scarcity of easy escape routes, and a scarcity of safe zones.

Prescribed fires may well turn out to be of limited applicability in

extensive roadless areas due to logistical difficulties and the severely limited capability to deal with fires that escape control. In many cases, fuel accumulation and stand conditions are such that risks associated with use of prescribed fire simply will be too high both economically, socially, and politically. In such cases, fuel accumulations must be mechanically reduced to some acceptable level and stand conditions appropriately altered before controlled burning can receive realistic consideration as a viable management alternative.

Of course, fires in roadless areas will be essential to produce a full array of habitats to maintain viable wildlife populations in those areas. Forests, in the course of their development, go through a number of stages from bare ground to old growth. Ecologists call this process succession.

The successional stages most commonly recognized by foresters and wildlife biologists are grass-forb, shrub-seedling, sapling-pole, young forest, mature forest, and old growth. The vast majority of species find their best habitats either in the earlier or later successional stages. Few, if any, species find optimum habitat in mid-successional stages due to the density of the trees that limits the sunlight reaching the forest floor, causing the relative rarity of shrubs, forbs, and grasses.

In managed forests, early successional stages, and what managers deem as appropriate sizes and distribution of those stages and their juxtaposition, can be assured by carefully planned timber cutting and subsequent stand management.

In unmanaged forests, particularly in those effectively protected from fire, commonly there is a paucity of earlier successional stages, with most of the forest occurring in mid-successional states which are, in general, relatively poor wildlife habitats. Fire or blowdown is the usual mechanism that initiates early succession in such circumstances. However, patches resulting from fire and blowdown range widely in size, from less than an acre to tens of thousands of acres, and appear more or less randomly over the land-

scape. Juxtaposition of resulting stands is likewise essentially random in nature.

Habitats to support deer and elk at high population levels are largely related to an admixture of cover provided by older successional forest stands and forage areas provided by early successional states and natural openings. We can expect the ups and downs of deer and elk populations in roadless areas to be related to fire occurrence in time, space, and amount.

At this moment it seems likely that the Forest Service will stay the course on the roadless area issue. Some 54.3 million acres are proposed to be designated by administrative action to remain in a roadless state. If so, it is imperative that we move aggressively to fully consider and deal with the wild card in the game—fire.

Enough is known about fire ecology, the consequences of fire, and the current situation in the landscape related to risks and benefits of fires that we cannot claim ignorance. We know that, to an alarming extent, the mapped areas identified as being at the highest risk for catastrophic fire—i.e., all the trees burn and soils are cooked, with a high propensity for rapid fire spread—commonly overlay maps of roadless areas. In the West, this overlap applies to 55 percent of roadless areas. We understand that our fire-fighting capabilities in such circumstances depend on early, quick attack to succeed in putting out fires while they are still small. Having much if any chance at controlling larger, very hot fires that are spreading rapidly is much more problematical.

It is important to think carefully through this situation, to sketch out likely scenarios, and then lay out plans—now—as to courses of actions that will be followed when the fires come in the roadless areas. And, the fires will come. Such is not a matter of “if.” Rather, it is matter of “when.” Detailed assessments of long-term risk and the reaction to likely scenarios, both in terms of immediate response for fire suppression, decision to let fires

burn, and likely outcomes—including those for fish and wildlife—have yet to be presented.

The tendency in natural resources planning is to deal with the *status quo* (the “no action alternative”) as having no effect, because, quite logically, there is no immediate effect of the decision. That is true enough. But what about consequences over the longer term? Aye, therein lies the rub. What are the likely long-term consequences of maintaining a *status quo* that, in reality, cannot be maintained due to both increase and vulnerability to fire?

All land management decisions, particularly ones that cover over 50 million acres, involve risks and produce winners and losers. Poker players know that all the odds in the game of chance change significantly when a wild card—the Joker—is added to the deck. In this game, the Joker is already shuffled into the deck, and the smiling clown wears a fool's cap of fire. ▲▲▲

