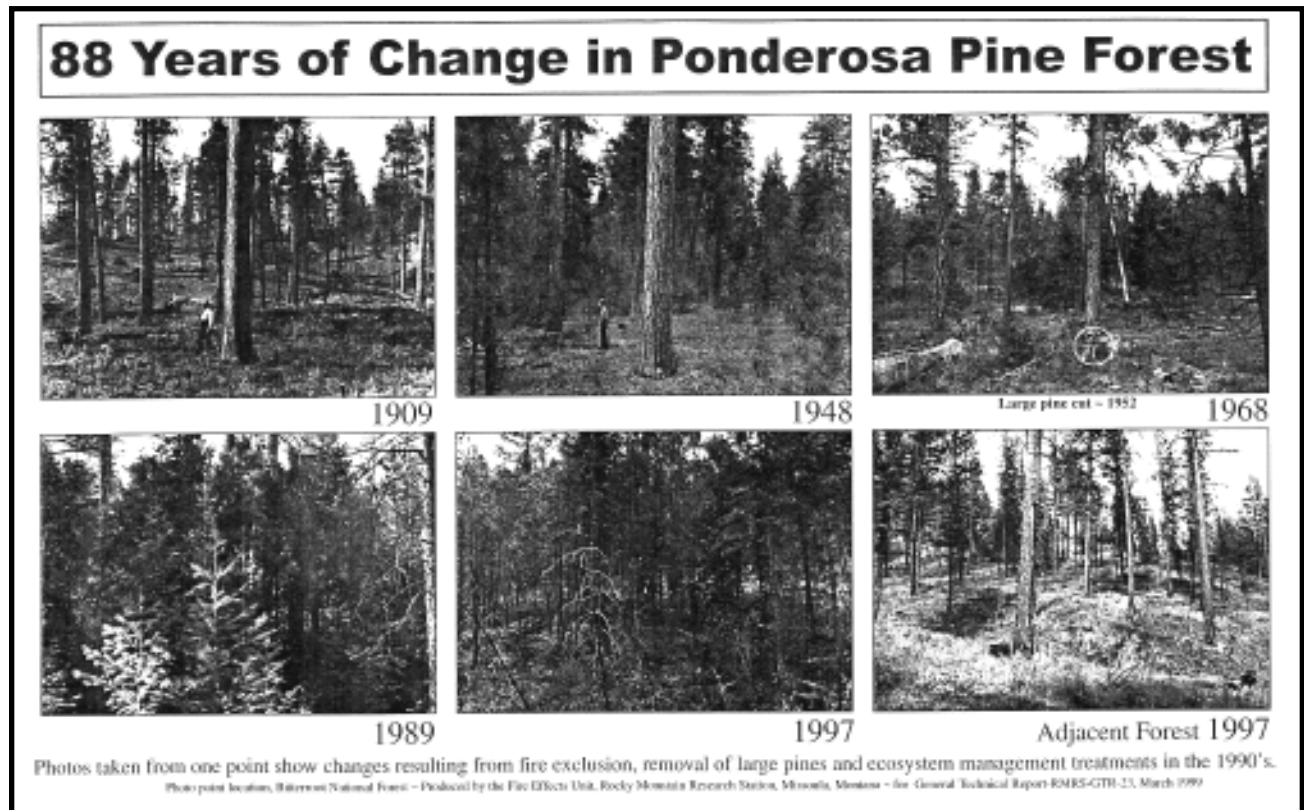


Ponderosa Poster Child:

U. S. Forest Service

Misrepresenting the Historic Condition of Western Forests And the Effects of Fire Suppression and Logging



***by
Keith J. Hammer***

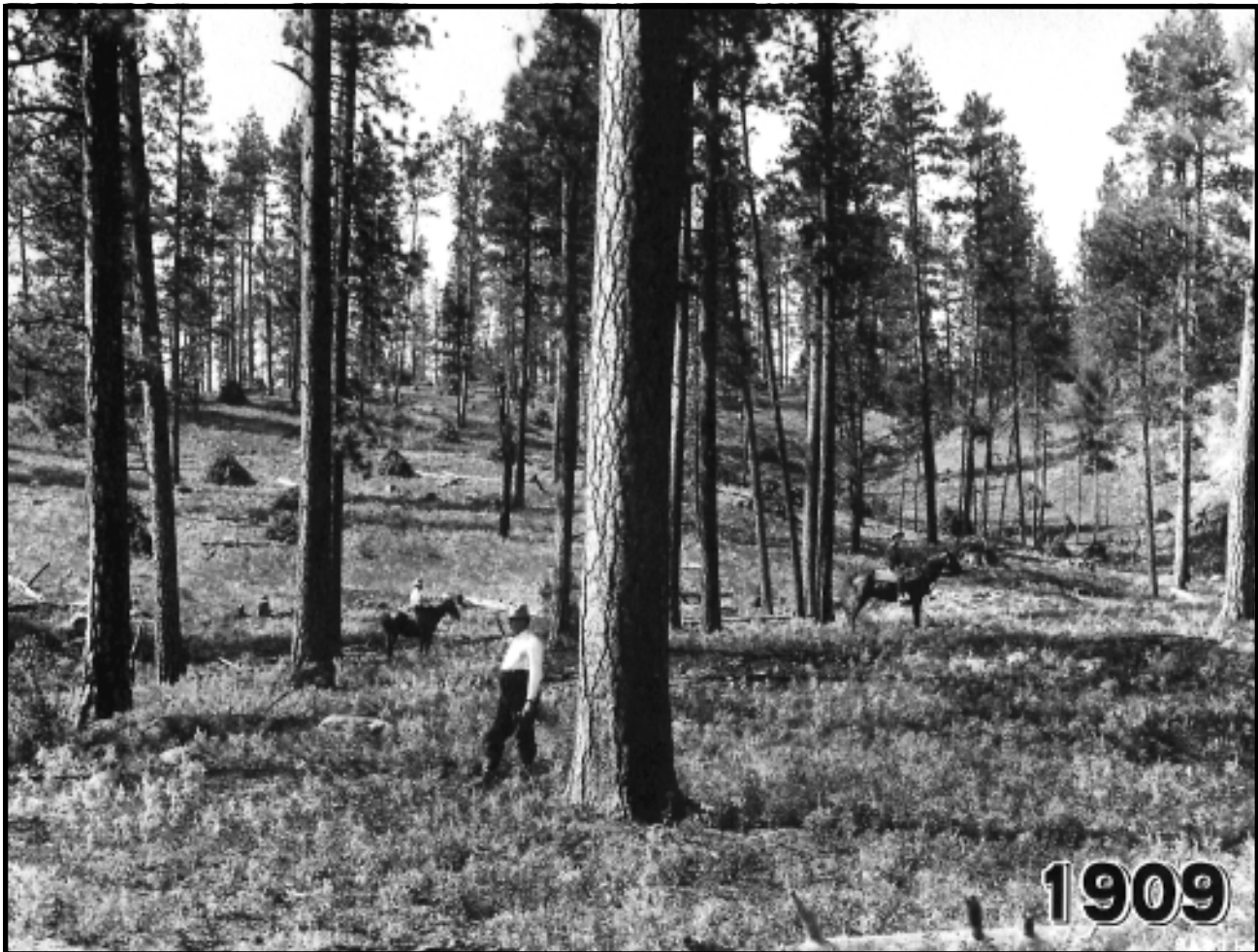
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Prepared For

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In its broadly distributed 1996 poster “80 Years of Change in Ponderosa Pine Forest” and elsewhere, the U. S. Forest Service misrepresents the historic condition of ponderosa pine forest in the Lick Creek area of the Bitterroot National Forest in Montana. It does so in its poster by presenting as the historically occurring forest a 1909 photo of a forest recently logged to open up the canopy, as shown immediately below (USFS 1996):



Cleanup operations on the Bitterroot's Lick Creek timber sale in 1909, falsely presented as showing historic forest conditions.

Omitted is an available 1909 photo of the “heavily stocked” Lick Creek forest “immediately before partial cutting,” as shown immediately below (USFS 1995 and 1999):



***Historic Lick Creek forest conditions, shown in 1909,
immediately before partial cutting.***

It's updated poster "88 Years of Change in Ponderosa Pine Forest" (shown on the title page of this report) furthers the deception by adding a 1997 photo of the results of "ecosystem management treatments," as shown in the photo immediately below (USFS 1999), which compares nicely to the widely-spaced ponderosa pine trees shown in the post-logging 1909 photo:



The results of recent Lick Creek "ecosystem management treatments" intended to return the forest to fictitious historic conditions.

Forest Service records clearly indicate the 1909 photo used for the poster is in fact a “north-westerly view showing cleanup operations on the Lick Creek timber sale.” (USFS 1983). In an April 13, 2000 response to the General Accounting Office, however, the Forest Service falsely captions the post-logging 1909 photo as representing “the baseline reference condition of forest stand conditions that evolved from regularly occurring, low-intensity surface burning.” (USFS 2000b).

Moreover, Forest Service studies indicate that photos of these forests taken just prior to being logged in the 1909 Lick Creek timber sale “show that although the understories were open, the stands were ‘heavily stocked’ with large ponderosa pine trees. [] Modest growth rates and relatively high basal areas of tree stems per acre attest that these early stands were fully stocked or overstocked in terms of timber production.” (USFS 1982 and 1999). Omitting the pre-logging 1909 photo from not only the posters, but a number of studies of the Lick Creek photo series, has caused widespread misunderstanding of the historic conditions of these ponderosa pine forests, leading people to believe they were more open in the canopy as well as the understory - what has become commonly referred to as “open, park-like stand[s].” (USFS 1999).

An accurate understanding of how dense these stands of ponderosa pine were historically is important in judging the effects of ecosystem management treatments intended to remedy decades of fire suppression. These treatments typically not only remove small trees and brush from the understory, but also reduce the density of larger trees in the canopy in order to improve “forest health” by decreasing competition among trees. (USFS 1999). Studies of these historic stands, however, indicate that it was the naturally occurring high density of large trees and not just frequent fires that kept the understory open:

“In addition to fire, dominance of large pines contributed to a scarcity of tree regeneration and shrubs in the understory. Shrubs and small trees were probably also inhibited by tree root systems utilizing much of the soil moisture and nutrients.” (USFS 1982 and 1999).

Indeed, the studies show that opening up the historic forest canopy encourages the establishment and growth of various shrub and tree species:

“[T]all shrubs (especially Scouler’s willow) and tree regeneration became established in direct proportion to the amount of stand opening and tree regeneration was most vigorous on the moist habitat types. [] Even though overstory Douglas-fir were mostly removed in the 1907 to 1911 logging, Douglas-fir regeneration increased markedly thereafter.” (USFS 1982 and 1999).

In other words, opening up the historic forest canopy exacerbates the problem of shrubs, Douglas-fir and other species crowding into the understory. And, as one of the studies concludes of the 1979 condition of the forest shown recently logged in the 1909 photo: “Soil disturbance during logging and exclusion of wildfire allowed ponderosa pine and Douglas-fir seedlings to become established and develop into a dense understory.” (USFS 1982).

Both posters, however, omit the fact that soil scarification during logging, not just fire exclusion, contributed to the establishment of a dense understory in what are described as

historically open stands of “highly stocked” ponderosa pine. And, again, while both posters purport to show changes “resulting from fire exclusion” and “removal of large pines,” they identify only one large pine cut in about 1952, while failing to clearly indicate that scores of large pines were cut just prior to the taking of the 1909 photo it presents as though it were typical of the historic, unlogged forests.

In sum, the Forest Service posters misrepresent the historic condition of the Lick Creek ponderosa pine forests as having more open canopy by presenting as the historic condition an after-logging photo of the thinned forest. Then, “ecosystem management treatments” are presented as the means to return today’s forests to this fictitious historic condition by prescribing logging which thins both the understory and the canopy. Moreover, the Forest Service intends its text book diagnosis and cookie-cutter remedy to be applied broadly:

“Within a year of its publication, 1,800 copies of the “80 Years of Change” poster were distributed. It has been useful not only in western Montana, where Douglas-fir is replacing ponderosa pine through succession, but also in Idaho, Washington and Oregon, where grand fir and Douglas-fir both replace ponderosa pine; in California, where white fir and coastal Douglas-fir are the replacement species; in the central Rocky Mountains, where blue spruce is the major replacement species; and in New Mexico and Arizona, where white fir and blue spruce are replacement species.” (USFS 1999).

Forest Service researchers have raised concerns about relying on “a poorly described and understood set of presettlement seral conditions:”

“We question the degree to which presettlement forest conditions are understood and the feasibility and desirability of converting forests to a seral state that represents those conditions. [] As Hoover [formerly of the Forest Service’s Rocky Mountain Research Station] observed:

‘It may be worth noting that travelers seek open stands. Few trails pass through dense stands by choice. Naturally, early wagon passengers and horseman saw open stands. Also, photographers and artists favored more open forests and avoided dense stands for their illustrations. This could bias our impression of past conditions.’” (Tiedemann et al 1999).

Indeed, Forest Service reports find not only were the historic forests in Lick Creek “heavily stocked” with large trees, but in some instances “advance natural regeneration, primarily Douglas-fir, was present in the stand prior to logging” (USFS 1999), some of it “pole-size” (USFS 1982). Moreover, Douglas-fir “made up about 10 percent of the stand volume” in Lick Creek, with “all Douglas-fir over 10 inches dbh” cut in the areas logged from 1907 to 1911 because it “was economically less desirable than the large old ponderosa pine, so silvicultural practices were aimed at perpetuating pine and reducing the fir component.” (USFS 1999).

A thorough review of these reports and photos provides ample evidence that many of these forests historically did not fit the current and widely-spread notion that they consisted of open-grown, widely spaced, park-like stands of ponderosa pine devoid of ladder fuels and Douglas-fir. If anything, the report which accompanies the “88 Years” poster heightens the

concern that today's ecosystem management treatments are front-loaded formulas aimed at restoring western forests to fictitious, romanticized historic conditions:

“Coincidentally, the kinds of treatments that we report and illustrate are now widely recommended for large areas of ponderosa pine forests throughout western North America. These treatments fit the concept of ecosystem-based management that was embraced by the USDA Forest Service soon after this study began. [] From a management standpoint it appears that efforts to return stands to conditions similar to those in the early part of the century will result in more visually pleasing scenery than if overstocked thickets develop.” (USFS 1999).

Simply put, the “88 Years” poster visually demonstrates that “ecosystem management treatments” applied in the 1990's produce results similar to what in 1909 was “the first large ponderosa pine timber sale in what is now the Northern Region of the USDA Forest Service.” (USFS 1999). The poster demonstrates that such treatments do not result in the more “heavily stocked” and more closed-canopy forests that existed prior to the first timber sales.

The Forest Service has launched widespread and massive efforts to restore remnant ponderosa pine and mixed species forests to fictitious historic conditions by logging these forests to open the canopy as well as the understory. Such logging is being pursued in timber sales like the Meadow Smith Project in Montana's Swan Valley, in spite of Forest Service documents which acknowledge: 1) harm to species such as pileated woodpecker and pine marten, which prefer closed-canopy forests, 2) an increased risk of spreading noxious weeds, and 3) 1930's inventories indicating the historic condition of the forest was primarily a mixture of mature Douglas-fir and ponderosa pine providing the closed canopy necessary for wintering whitetail deer. (USFS 2000a). Equally as troubling are the findings of the experimental ecosystem management treatments in the Lick Creek studies:

“Concurrent impacts of the thinning and burning activities were mortality of understory vegetation, soil disturbance that led to spread of knapweed, reduction of potentially mineralizable nitrogen, lessening of esthetic values, and reduction in habitat of certain birds.” (USFS 1999).

In summary, the Forest Service is widely distributing false propaganda to convince its employees and the public of the merits of “ecosystem management treatments” purported to remedy “forest health” problems by returning today's forests to their historic conditions by removing trees rather than roads. Behind the Forest Service's promise of tidier, healthier and better looking forests, however, lies its wealth of scientific evidence indicating these highly managed forests will neither be healthy nor function like the forests that existed historically in the American West.

*An electronic version of this report, in pdf format,
is available at www.swanview.org*

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