

Committee on Resources

Subcommittee on Forests & Forest Health

Testimony

Testimony of

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Madam Chairman, Committee Members, thank you for the invitation to speak today on the topic of wildlife habitat on the National Forests. The invitation to testify arrived shortly before I went into the Boundary Waters Canoe Area on the Superior National Forest in Minnesota for 10 days; I therefore did not have the time to extensively reference my statements with scientific literature. What I have to say, however, is quite simple and straight-forward.

The stewardship practiced by the professionals in the USDA Forest Service has been widely criticized of late. Any errors made by these professionals can be painfully visible on the landscape for decades. Let me say that I believe the Forest Service, under leadership from Gifford Pinchot through my colleague Jack Ward Thomas and now Chief Mike Dombeck, is an outstanding organization. The Forest Service employs some of the best professionals anywhere. Their mission is complex and some of their legislatively mandated objectives can be contradictory. Despite these challenges, the Forest Service has operated in a context of strong public participation and an open decision making process. Overall, the Forest Service has done well.

The pressures on our National Forests, however, are immense. Human demands on these forests continues to expand. Americans use these areas in which to play and recreate; harvest timber; fish, hunt, and trap; graze livestock; and maintain biological diversity. These forests often serve as headwaters for municipal water supplies. The world's human population continues to grow, reaching 6,000,000,000 this past weekend and increasing at a rate of approximately 3 individuals per second (births minus deaths). As America's population expands, the land per capita declines and the freedom to practice my favorite activity without infringing on the activities of others (or, worse yet, the activities of others infringing on mine) on our public lands decreases. This tyranny of population growth exacerbates problems associated with public land management. At a time when sharing is increasingly necessary, people seem less willing to share. Appeals are filed on many Forest Service proposals; wildlife and wildlife habitat are the basis for the vast majority of these appeals.

Maintaining habitat for the almost 2,200 species of birds, mammals, reptiles, and amphibians in the United States is no small task. While the geographic ranges of many species overlap to varying degrees, each species has its own set of habitat requirements. Habitat for ruffed grouse is quite different than habitat for mountain goats, though both may inhabit the same National Forest. Habitat for white-tailed deer is different than habitat for mule deer, though a fair amount of overlap may occur. Habitat for Clark's nutcracker is not the same as habitat for Wilson's warbler. Indeed, the term "wildlife habitat" does not convey much

information. We cannot manage for "wildlife habitat" without specifying the species with which we are concerned (although we could manage for pileated woodpecker habitat).

Some species, such as many of our highly prized game species, do best in young forests or in a mixture of young and old forests. Examples of this include white-tailed deer, elk, and ruffed grouse. Other species do best in old growth or in older forests; examples include spotted owls and marbled murrelets. Some species do very well at the edges of different-aged stands, while the populations of others are adversely affected in these areas. Examples of the former include elk, white-tailed deer, and some predators; examples of the latter include many species of song birds.

Management for almost 2,200 species, many of which we know almost nothing about, is made all the more difficult when one considers that managing for one species may preclude the presence of another. For example, managing Michigan pine stands for Kirtland's warbler, an early successional species, will preclude species requiring older stands of trees. We know that every management action will result in detrimental impacts to some species and beneficial impacts to others. The impacts on still other species is unknown because insufficient research has been conducted.

Further complicating matters, especially in the west, is the fact that many of our National Forests are the lands that were left over after the most accessible and highly productive valley lands were acquired by private interests. These National Forest lands are generally at higher elevations, contain poorer soils, and are not as productive as other lands. They are "naturally" fragmented by mountain ranges and anthropogenically fragmented by land ownership (such as private lands in the valley bottoms) and land use practices. Because of low cattle prices and high prices for land, many of these valley bottom lands are being subdivided for ranchettes, subdivisions, golf courses, or contain high road densities. These will, at times, in some places, and for some species, effectively isolate animals into smaller and smaller populations. The fate of increasingly fragmented populations is grim.

So, how can management for wildlife species occur when the federal mandate is for viable populations of all vertebrate species well distributed across the National Forests? We know that North American forests in pre-Columbian times were a shifting mosaic of stands of different ages. Areas would have been perturbed at different times, creating stands within a landscape of different ages. As time progressed, many of those areas became older, while others burned, blew down, or were killed by insect or disease (in the inter-mountain west, the most frequent agent of disturbance was fire). Effectively, stands of different ages moved across the landscape through time. One particular area might provide habitat for early successional species at one point in time, while at a later time would provide habitat for late successional wildlife species. The frequency and intensity of these disturbances varied by site, and plant species evolved in the presence of fire. Some forest stands burned frequently and with low intensity (often a ground fire), while others burned much less frequently but at a much higher intensity (crown fires). Species such as Ponderosa pine evolved with the former type of fire, lodgepole pine with the latter.

Researchers working on fire have a relatively good sense of the temporal frequency of these disturbances, while estimates of the spatial extent and the distribution of these disturbances across the landscape are somewhat less clear. Given the tremendous number of vertebrate species and the near impossibility of managing for each of them individually (or even effectively monitoring them all), one strategy is to maintain communities (habitats) of different ages and species composition to provide for many vertebrate species. The size of these areas, the frequency of disturbance, and the distribution of these stands across the landscape could be tied to what we know about disturbances in pre-Columbian times. This general strategy is known as a coarse filter approach and is sufficient to provide for the majority of species. The larger the land area available, the less fragmented it is by population isolating factors, and the more productive it is, the better this technique works to conserve species. Note my comments earlier that intermountain valleys are increasingly being subdivided for other purposes.

The remaining organisms must be handled with a "fine filter" approach, often on a species by species basis.

These species generally have very specific habitat requirements on western forests, or they require large areas to maintain viable populations. We have very little information on many of these species. Other species handled individually may be species of special interest (such as game animals).

So, we have a situation where the coarse filter approach works to conserve many species, but the number of species conserved with this approach may well decline with time. Private land in the intermountain west that formerly was managed in a manner similar to the public lands is now often being managed in a way that is not conducive to movements of species. And we have very little information on the status and habitat needs of a variety of species. To me, this argues for:

- 1) An increase in "active" management.
- 2) An increase in research efforts.
- 3) An increase in cooperative efforts between the public and private sectors.

Increase in Active Management

In pre-Columbian days, Native Americans and stochastic events such as fire over landscapes the size of North America provided the diversity of habitats necessary for our assemblage of wildlife species. Our National Forests, at somewhat over 190,000,000 acres, are distributed throughout the country and, as mentioned above, are increasingly not contiguous. Neighbors are often not accepting of disturbances lands (such as fire) on public that might also affect their lands. A very protective management strategy, where "natural" disturbance regimes occur, is appropriate in very large areas but may not work elsewhere. One disturbance event on these smaller areas could eliminate the available habitat for some species. In these areas, increasingly common due to increasing population pressures, active management to create desired stand conditions will become increasingly important. In addition, active management will be important for many species covered by a fine filter approach.

This active management could be used to recreate a shifting mosaic of forest stands at ecologically appropriate spatial and temporal scales and provide a coarse filter for wildlife conservation. Areas adjacent to public lands may, in some instances, provide much of the early successional habitat needed in a planning area. Managed, or cut-over areas, will not be the same as areas disturbed by fire, wind, insect, or disease, however. The amount of coarse woody debris, for example, will almost always be less in a cut-over stand than in burned forest, and this will affect species occurrence and abundance. Species for which this is a problem will have to be managed with a fine filter approach. Despite some shortcomings, this approach could be far superior to no action followed by a catastrophic event (again, in relatively small areas) that has a greater impact on species occurrence and abundance. Stands will not remain static through time change will occur. As one of my wildlife professors said many years ago: "Change is the name of the game" when it comes to habitat.

In sum, active management should be used to assist in providing habitat for species in areas where more "protective" management and more "natural" disturbance regimes may be inappropriate (such as relatively small areas and areas near human habitation). Active habitat management, however, should not be viewed as a substitute for large blocks of wilderness and old growth: these types of areas are necessary for some species, too.

Increase in Research Efforts

Research can help illuminate most of the contentious issues involving wildlife and habitat, and research is especially needed at a time of increasing contention. Not spending money on research can have a very large cost.

One of the greatest assets the USDA Forest Service has is its independent research branch. Forest Service researchers and their cooperators lead the way on research into forest carnivores, neotropical migratory birds, and many other species groups and issues. Funding appears insufficient to address current issues, much less to address issues sure to emerge soon. In the west, for example, fisher, American marten, and wolverine are very likely to be petitioned for listing under the Endangered Species Act in the not-too-distant future, and almost nothing is known about their habitat requirements south of Canada. Research into those species and their habitat requirements now could provide management flexibility in the future.

Research has resulted in a number of success stories. The white tailed deer was approaching extinction 120 years ago a fact that is hard to imagine today. A reduction in exploitation, reintroductions, and a focus on maintaining winter cover have brought this species back to nuisance levels in some areas. The cougar is another species that was very rare 50 years ago. Changing human attitudes and increased prey abundance have resulted in a dramatic increase in cougar populations in the intermountain west. Researchers discovered that declines in the bald eagle could be attributed to use of certain pesticides, including DDT. Again, the management solution was obvious, though recovery took some time.

Today, the lynx is being considered for listing under the protection of the Endangered Species Act. Those on the preservationist side argue that lynx need old growth for survival; those on the opposite side argue the need for vigorous, young stands with abundant snowshoe hare populations. Still others argue that the lynx is rare in the contiguous United States simply because it is on the southern extreme of its range. These arguments can only be resolved by careful study of these elusive animals, but research on long-lived, rare species is expensive and of necessity of long duration.

Additional research funding for the independent Forest Service research branch will not eliminate problems or appeals of forest management, but it would help tremendously to provide for the needs of many species as well as enlighten the decision-making process.

The proposed Conservation and Reinvestment Act would do more to ensure the future of wildlife and habitat than any single measure on the horizon. Title III of this Act would provide dollars to the States to, among other things, conduct research and monitoring of those species about which we know least: species that are neither game nor endangered. Problems with any of those species could be addressed with much less effort and much less disruption to local communities if the problems were discovered early and if the solutions were proposed locally. Monitoring will provide an early warning system for species before they need the protection of the Endangered Species Act. Local efforts to conserve species, if successful, would be relatively inexpensive. If they are unsuccessful, listing could still occur.

An Increase in Cooperative Efforts Between the Public and Private Sectors

Many game mammals migrate annually between summer and winter ranges. In the intermountain west, this often means summering on public land and wintering on private lands in the valley bottoms. Wide ranging carnivores often have home ranges that encompass both public and private lands. To maintain viable populations of these low density animals, low elevation areas which are often in private ownership must be available as travel corridors at a minimum and preferably as habitat between areas of public.

One example: As wolves, which recolonized Glacier National Park through dispersal from Canada, dispersed further south in Montana, many people thought they would take advantage of the vast Bob Marshall, Scapegoat, and Great Bear Wilderness Areas (Forest Service lands). Together with Glacier National Park, these areas consist of approximately 3,000,000 acres. Instead of using these high elevation areas, however, wolves attempted to recolonize low elevation public and private lands.

These private lands in the west play a crucial role in conserving America's wildlife heritage. It would be very difficult to conserve many species without the cooperation of private landowners. Most of these private land owners are proud of the wildlife on their lands, but this comes at a cost to them. Elk break down fences

and consume alfalfa, and predators occasionally kill livestock. A very basic problem is that the costs and benefits of conservation in this country are not equal shared. All Americans benefit with the conservation of biological diversity. However, the costs to some private landowners in the west can be quite high, and many of these landowners tend not to be the most economically affluent people in the United States.

Documentation of the contributions of private landowners to conservation (again, more research), such as has occurred on the Robber's Roost Ecosystem in Wyoming, is an important start. Innovative means to encourage conservation on these lands, financial and otherwise, by private conservation groups when possible (one example is Defenders of Wildlife's compensation program to ranchers who lose livestock to wolves) will be necessary to maintain many wildlife species, especially as land prices continue to soar and the incentive to subdivide increases.

In sum, conservation of wildlife on public lands is often dependent on neighboring private landowners. Conservation of many species of wildlife will fail without the willing cooperation of and coordination with private landowners (habitat managers).

Summary

Pressures on wildlife populations are increasing as the human population increases and the demands on forested ecosystems increase. Pressure will continue to mount on public lands to serve as a repository of biological diversity. As lands available to serve this function effectively shrink, more active management of some of these public lands will be necessary to insure the perpetuation of desired wildlife diversity.

Increased research and monitoring will be critical to provide the information necessary to conserve these species on an increasingly over-subscribed land base. Finally, owners of private land adjacent to our public lands should be recognized for their contributions to conservation of public wildlife. Failure to do this will result in a loss of these lands as habitat for many species of concern, and will greatly exacerbate problems associated with conservation of species on the public's lands.

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