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Delivering Conservation Programs: Future Challenges

Forest Service Chief Dale Bosworth
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It's a pleasure to be here at the 68th North American Wildlife and Natural Resources Conference. I'd like to thank the sponsors of this event, particularly the Wildlife Management Institute. For almost 7 decades, the Institute has promoted dialogue about wildlife management and conservation. I believe that these issues are vital to the well-being of our nation, so I thank you for the opportunity to share my thoughts on them.

I represent tens of thousands of hard-working Forest Service employees. Every one of them is dedicated to the proposition that we as a nation must do everything we can to deliver conservation programs. That's never been easy, but I think some of the challenges we face today might be greater than ever. They are certainly different than some of the challenges we have faced in the past. In my remarks, I want to focus on four things:

- first, our tradition of delivering conservation programs, particularly for wildlife;
- second, how our management has changed;
- third, the main challenges we face today; and
- fourth, where I see us headed in the future.

Tradition of Conservation Delivery

Our agency goes back for almost a century—even longer than that, under another name. We came out of the great conservation movement at the turn of the 20th century. For generations, Forest Service employees have worked side by side with our partners to protect America's wildlife. By "wildlife," most folks mean land animals like deer or bear. Here in this context, I'm talking about both terrestrial *and* aquatic species, whether endangered or not, and also rare plants and plant communities. All of these figure into our conservation programs for biodiversity.

What programs do we have? A lot of them are on the National Forest System, and I'll get to those in a minute. But first I want to say a little about our other conservation programs—our state and private programs, our research programs, and our international programs.

Our State and Private Forestry staff has roots that go back even before the National Forest System. For more than a hundred years, we've worked closely with the states and with willing private landowners to conserve habitat for wildlife all across America. A current example is our Forest Legacy Program, where we work with state and other partners to purchase conservation easements from willing landowners. So far, we've had at least 137 projects in the program. The purpose is to let landowners across the nation keep their lands forested in perpetuity. The projects are partly chosen for their value in conserving wildlife.

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Our Research and Development staff also has very old roots. We've got the biggest and, in my view, the best organization in the world dedicated solely to conservation research. We work closely with academic institutions and other science organizations around the country and around the world. Part of our research focuses on understanding the effects of active management on wildlife species and their habitats. For example, on the Colorado Plateau we are working with the Ecological Restoration Institute to study the effects of forest health treatments in ponderosa pine on habitat for northern goshawk. We're looking at the effects of thinning, burning, and various combinations of both. The results will help managers design ecosystem restoration projects that are sensitive to the long-term needs of wildlife.

Our International Programs staff is relatively young, although we have long been involved in tropical forestry work and research through our presence in Puerto Rico. In fact, our Puerto Rican connection has led to international collaboration. We know you can't manage wildlife in isolation, and that's especially true for migratory birds. In northern Michigan, for example, we're restoring habitat for the endangered Kirtland's warbler. But nothing we do there will make any difference if Kirtland's warbler loses winter habitat in the Bahamas. So we've learned the need for international collaboration to protect our native species.

Now to the National Forest System. The Forest Service manages some 192 million acres of national forests and grasslands. That's an area the size of the original 13 colonies. We work hand-in-hand with other federal agencies as well as with our state partners to protect and restore wildlife. We also work hand-in-hand with many private organizations through partnerships on public land—for example, The Nature Conservancy, the Rocky Mountain Elk Foundation, the Wild Turkey Federation, and many more.

How important are these efforts? In 2000, a scientific profile on biodiversity was published by The Nature Conservancy along with NatureServe, a nonprofit organization dedicated to providing a scientific basis for conservation. According to the study, the greatest number of imperiled species in the United States is found on the National Forest System. It's about a quarter of all imperiled species—26 percent.¹ By comparison, the National Forest System is less than 9 percent of the U.S. land area. That huge disproportionality is partly because the national forests and grasslands have traditionally been refuges—places where threatened and endangered species could make a last stand. The Forest Service recognizes and accepts our enormous responsibility to contribute to the recovery of these species.

Management Changes

We haven't always succeeded. We've made some mistakes. I think we've owned up to that, and we're making some big improvements in the way we manage the land. I've been in the Forest

¹ Craig R. Groves, Lynn S. Kutner, David M. Stoms, Michael P. Murray, J. Michael Scott, Michael Schafale, Alan S. Weakley, and Robert L. Pressey, "Owning Up to Our Responsibilities: Who Owns Lands Important for Biodiversity?" in Bruce A. Stein, Lynn S. Kutner, and Jonathan S. Adams (eds.), *Precious Heritage: The Status of Biodiversity in the United States* (Oxford, England: Oxford University Press, 2000), p. 280.

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Service for more than 36 years, and I've seen how things have changed. Twenty years ago, we focused primarily on *outputs*, measured in terms of board feet of timber; today, we focus primarily on *outcomes*, measured in terms of healthy ecosystems. We've learned that what we leave on the land is more important than what we take away.

The change came partly in response to changing public values. It was signaled by the first Earth Day in 1970. We got new environmental laws—the National Forest Management Act, ESA, NEPA, and so forth. I think that did us a lot of good. We need the national sideboards those laws give us.

But in the 1970s and 1980s, we were still being asked to put out a whole lot of timber. So we tried to squeeze our output production in between those new environmental sideboards. We did that mainly through the new forest planning process and by making rules and regulations for mitigating resource damage. For example, our guidelines for timber harvest say you've got to have stream buffers of a certain width and leave a certain amount of vegetation for wildlife.

That's fine, as far as it goes; but we found that planning has its limits. Our science and technology weren't always good enough to predict management impacts. In fact, they never will be—ecosystems are just too complex. Also, we failed to foresee certain developments, such as explosive fuel buildups in the Interior West. As we discovered what forest plans could and could not do, we began looking for better ways of applying them.

Gradually, we developed a collaborative, ecosystem-based approach to national forest management. Ecosystem management has a number of basic features: watershed analysis, landscape-scale planning, collaboration across boundaries, and adaptive management. It capitalizes on new information technology—GIS, simulation models, remote sensing, Internet, and so forth. It emphasizes working closely with communities—making public involvement more meaningful. We've got new bodies for collaborative decisionmaking, such as watershed councils and resource advisory committees.

The basic idea is this: We sit down with stakeholders and interested citizens, and together we envision a desired future condition for the land. We ask what values we all share—what do we want the land to look like in 20 or 50 years? If we can agree on that, then it becomes simply a matter of how to get there. Then we formulate appropriate goals and work with partners all across the landscape to reach those shared goals.

Sounds good, doesn't it? Problem is, too many folks are stuck in the past, still fighting the same old battles from 20 or 30 years ago. When you open the papers and read about the national forests, what jumps out? Logging and roads. We're too focused on logging, they tell us; we're too focused on building new roads. But it's just not true. Here are the facts:

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- Today, the national forests produce less than 2 billion board feet of timber per year. That's only about 15 percent of what we produced 15 or 20 years ago. In terms of sheer weight, Americans produce more woody yard waste than national forest timber.²
- In the last 5 years, the Forest Service built about 155 miles of new road on average each year. In our 360,000-mile road system, that's next to nothing. Besides, for every mile of road we built, we obliterated 14 miles of road. If anything, our road system is actually shrinking.

The fact is, our management is not what it was 20 or 30 years ago. Instead of mitigating damage from *outputs*, we now capitalize on activities for generating *outcomes*. That includes using timber removal as a tool for restoring healthy, resilient forest ecosystems. That's why the debate today—focusing on limits to diameter size—misses the mark. Some people contend that forests are unsustainable if we remove any trees at all over a certain diameter size. To my knowledge, there is no science to support that.

In my view, the way to manage for healthy ecosystems and habitats is to focus on what we leave on the land, not on what we take away. On a landscape scale, the number and size of the trees we remove doesn't matter. What matters is the number, size, and type of trees we leave on the land to achieve healthy landscape conditions. The goal is to meet the desired future condition.

Management Challenges

So our management has changed, and so have our management challenges. A century ago, overhunting was a huge problem. Fifty years ago, pollution was a big problem, including the overuse of chemicals such as DDT. Some say that timber and roads are still our main problems. But if you look at the threats to biodiversity today, what jumps out?

Let me go back to that recent study I mentioned by The Nature Conservancy and NatureServe. It identifies five major threats to biodiversity. The top two are habitat loss and invasive species—not pollution and not overexploitation. Pollution and overhunting might have been some of the main problems we faced in the past, but not anymore. Habitat loss and degradation contribute to the endangerment of 85 percent of the species analyzed in the study. Invasives affect 49 percent.³

Now let's take a closer look at habitat loss and degradation. That same study identifies 11 different contributing factors, things like mining or water development. One of those factors is altered fire regimes. According to the study, disruption to fire ecology affects 14 percent of our

² David B. McKeever and Kenneth E. Skog, "Urban Tree and Woody Yard Residues: Another Wood Resource" (unpublished draft paper, 9 January 2003; Madison, WI: USDA Forest Service, Forest Products Laboratory).

³ David S. Wilcove, David Rothstein, Jason Dubow, Ali Phillips, and Elizabeth Losos, "Leading Threats to Biodiversity: What's Imperiling U.S. Species," in Bruce A. Stein, Lynn S. Kutner, and Jonathan S. Adams (eds.), *Precious Heritage: The Status of Biodiversity in the United States* (Oxford, U.K.: Oxford University Press, 2000), p. 242.

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endangered species. That's more than mining, oil and gas development, and geothermal development combined.

In view of the recent fire seasons we've had, I guess that's not too surprising. By excluding fire, we have let many of our fire-adapted forests get overcrowded. Just to give you some idea, in the Southwest—Arizona and New Mexico—annual growth is enough to cover a football field 1 mile high with solid wood, even after losses from fire and mortality.⁴ Recent removals have been only about 10 percent of this.

So we've altered the fire regimes, and now we're getting huge fire seasons and lots of big fires—fires way out of the historical range of natural variability. Last year, four states had record fires, and a fifth came close. Fires can benefit wildlife, but some of the effects of these huge fires we're seeing today are not beneficial. A good example is last year's Hayman Fire in Colorado. According to a preliminary draft report, the Hayman Fire destroyed critical habitat for several endangered species, including the Mexican spotted owl, Preble's meadow jumping mouse, and Pawnee montane skipper. The skipper is a butterfly, and it lost 40 percent of its entire habitat.⁵

So how does logging compare? The study is quite clear: All the effects of logging combined, *including* forest roads, affect just *12 percent* of our imperiled species. That's far, far less than invasive species. It's far, far less than habitat loss and degradation overall. It's even less than altered fire regimes. In fact, in terms of endangered species as a measure of conservation, logging and roads are some of our *least* important concerns.

Not surprisingly, when you go out on a ranger district and talk to Forest Service folks and look at their projects, the issues that jump out at you are not logging and roads. They spend much more time on things like invasive species, habitat fragmentation, and fire ecology and ecosystem health. These are our main management concerns today, and I believe they will remain our main concerns far into the future.

What the Future Holds

That brings me to my fourth and final topic—what's in store for the future?

In terms of the general way we manage, I think we will continue to focus on restoring healthy, resilient ecosystems. Increasingly, we will need to consider long-term outcomes across the entire landscape. At the same time, we will need to manage specific habitats for certain species; I don't see ecosystem management and species management as an either/or proposition. We need to work across borders and boundaries to identify species at risk and protect needed habitat accordingly. Increasingly, we share responsibilities all across the landscape for species protection and habitat conservation.

⁴ Marlin Johnson, personal communication (Assistant Director, Forestry and Forest Health, USDA Forest Service, Southwestern Region, Albuquerque, NM), 2002.

⁵ USDA Forest Service, Hayman Fire Case Study Analysis (preliminary draft). Fort Collins, CO: Rocky Mountain Research Station, pp. 5-6.

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I think the Forest Service will also need to manage the National Forest System even more collaboratively than in the past. We will need to draw on the principles of community-based forestry to give the public a more meaningful say in our decisions. In the future, I think we'll be conveners and facilitators as much as land managers. I see us becoming catalysts for collaboration, for bringing folks together from all across the landscape to join us in deciding about the desired future condition and how to get there.

For that, we will need more tools and more local flexibility. Last August, we got some help from the President when he announced the Healthy Forests Initiative. Here are some of the things we're doing:

- We're streamlining our own internal administrative procedures.
- We're reducing the number of overlapping federal environmental reviews.
- We're simplifying our Forest Service appeals process.
- We're getting more categorical exclusions for small vegetation management projects.
- We're revising our planning rule to give local managers more of the flexibility they need to make collaborative decisions based on local conditions and needs.

So we're getting more of the tools we need to address the main problems we face today, such as fuels and forest health. The National Fire Plan is working; we're getting a lot more acres treated than we used to, and last year we had our best fire suppression performance in history. We're also formulating a cohesive strategy for managing invasives, and we've gotten a couple of new tools with our state partners: the State Wildlife Agreements process and the State Wildlife Grant initiative. These new tools will help us better coordinate species and habitat conservation all across the landscape.

Managing for Results

Before closing, I'll mention another tool we're getting, because I think it will characterize our future management. Ten years from now, I see stewardship end results contracts as our main tool on the National Forest System. Timber contracts will be part of that, but the timber sale isn't really the best tool for meeting the desired future condition, because it's geared toward short-term outputs.

In the future, I see us contracting with all kinds of nongovernmental organizations to meet the desired future condition. I see us focusing on partners with staying power—with a long-term stake in the land. So instead of traditional timber contracts, we might have vegetation management contracts with a local community, with an American Indian Tribe, or maybe with an organization like The Nature Conservancy, where the focus is on end results rather than outputs and bottom lines. That's where I think we're heading.

In closing, let me repeat my main points:

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- We have a long tradition of working with partners to deliver conservation programs.
 - We've made some mistakes, and we've owned up to that. Our management has changed, and so have the challenges we face.
 - Instead of roads and logging, we ought to be focusing more on invasives as well as fuels and forest health. Those are some of the main challenges we face today.
 - We are getting more of the tools we need to address those challenges. In the future, we will be focused more than ever on collaborative management and community-based forestry—but only if we can find common ground.

The subtitle for this conference is “Wrestling with the Devil.” I think we’ve wrestled too much with the devil in the past. It’s time to move on. It’s time to stop seeing the devil in our adversaries and start seeing each other for who we are: Folks with a lot in common in terms of what we want for the land. If we can do that much, then I think we can begin to work together to get there. We owe the next generation at least that much.