

American conservationist J. Michael Fay walked into the jungle on September 20, 1999 from Bomassa, in northeastern Congo. He stopped walking December 18, 2000 on the Atlantic coast of Gabon. His goal: an on-foot survey of the quickly dwindling forests of central Africa.

He called this long walk a “megatransect” to suggest not only the vastness of his 2,000-mile journey, but also the data-gathering intent behind this plunge into the heart of tropical Nature: he would fill dozens of notebooks and video tapes with records of ancient kapok trees, chimpanzees who had never seen people, aardvark burrows, ocean-surfing hippos, a chorus of birds, more than 20,000 piles of elephant dung, and nearly countless other smells, sights, and signs of what may be the most intact ecosystem on the planet.*

Fay is no conservation carpetbagger. Trained as a botanist, he has spent nearly 25 years in central Africa, completing his doctoral dissertation on western lowland gorillas and creating and managing wilderness parks—including ten years as the director of the Nouabalé-Ndoki National Park in the Republic of Congo. In this time, he developed a field style that might be fairly summed up as: find the most inaccessible forests and disappear into them for weeks with little more than a bag of food and a pair of river shorts.

On the megatransect, a joint expedition of the Wildlife Conservation Society and the National Geographic Society, Fay married this exploratory spirit with years of careful scientific planning. Using maps, overflights, and scouting forays, he noted villages, roads, rail lines, and logging operations. These points and lines of human settlement formed the boundaries of 13 abutting polygons of pristine forest. Fay’s course differed from standard straight-line survey techniques, snaking through the center of each wild forest, forming a huge backward S toward the sea. On the scale of daily itineraries, his party took “the path of least resistance” (a grand misnomer for 15 months of machete-hacking travel) around the widest rivers and deepest sumps. On the macro-scale, they always headed on a compass bearing toward the points with the least human presence.

Though this was not his first visit to the jungle, it was the most ambitious, and the stakes were high. He and his crews of Pygmies survived neck-deep black-water swamps, hepatitis, arrest by local gendarmes, and charging elephants. But the greatest risk still lies ahead: will his headlong walk, his unorthodox methods, and his winding trail of data result in new protections for African forests?

Seeking a positive answer to this question, Fay returned to the United States this year to promote the cause of African forest conservation. *Wild Earth*’s assistant editor, **Joshua Brown**, and managing editor, **Jennifer Esser**, spoke with him on February 20, 2002.

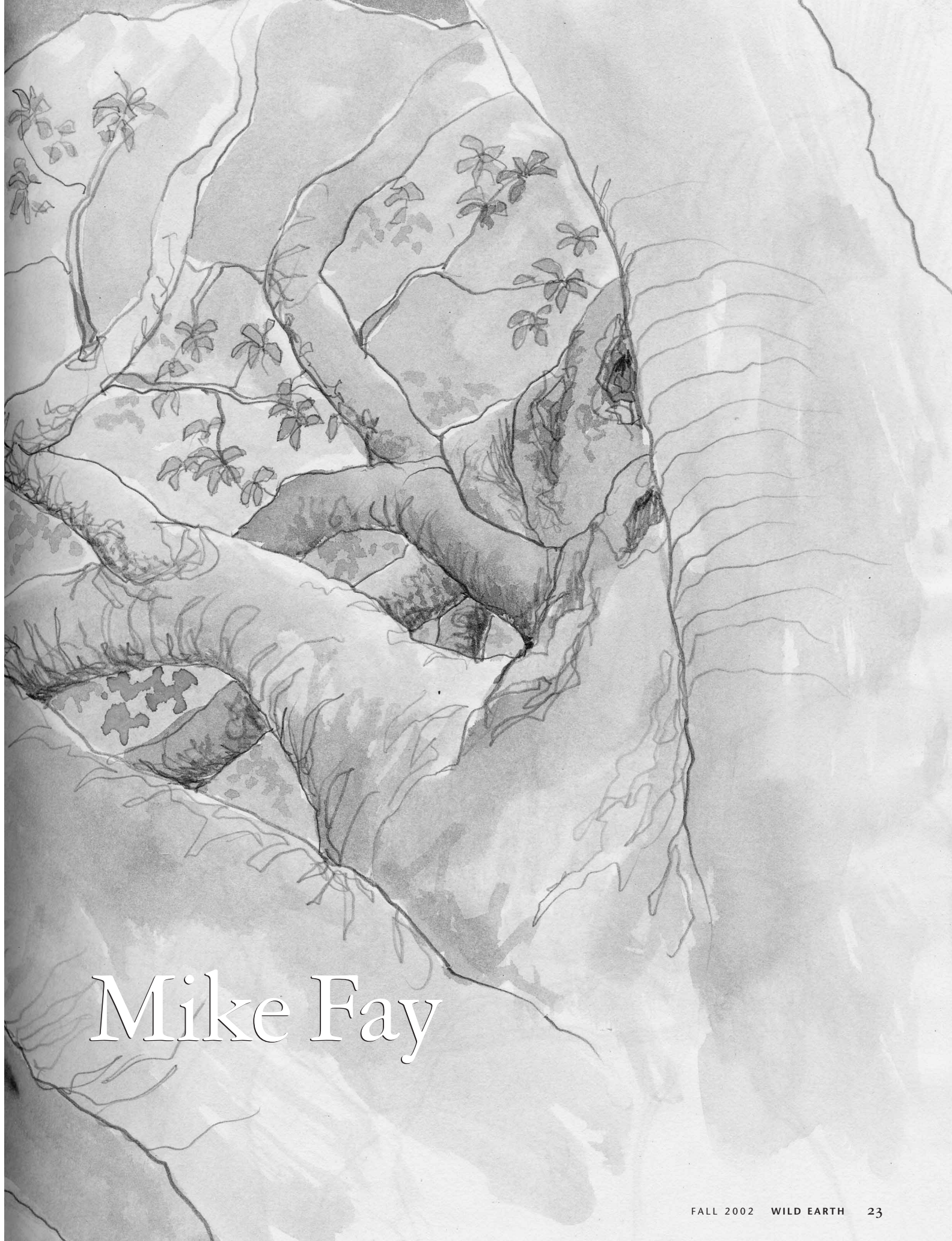
WILD EARTH: You have worked for many years to establish national parks in central Africa. Why there?

MIKE FAY: I have always been a conservationist as far back as I can remember and in college I fell in love with the big landscapes of Alaska. I thought I would end up there. But this all changed when I joined the Peace Corps in 1978 as a botanist and traveled to Africa.

There are wilderness areas in central Africa far larger in size than any place in North America, even in Alaska. Five kilometers in a forest is deep. I discovered roadless places in central Africa where you can go 70–80 kilometers deep and another 70–80 to the other side to get out. These are enormously rich and uninhabited tracts. I thought: there are no parks here; logging is going to destroy this place in 10–15 years; let’s get busy and create some parks.



* The grueling texture of Fay’s journey was captured in three *National Geographic* articles (October 2000, March 2001, and August 2001).



Mike Fay

I wasn't attracted to central Africa by the mission of creating parks. I simply arrived and discovered that we had to act quickly, because the logging companies are grabbing up the land as fast as they can. It was like being a century-and-a-half back from what happened in the Lower 48. I never made it back to Alaska.

Are the parks that have been established succeeding?

Yes, but we have to be careful about what we use to measure success. If you look at the U.S., the total revenue from national parks covers about 4% of the budget to run them, and yet there are about 300 million entrances annually into the national parks. Here we are in the U.S., a developed country with lots of resources, and the parks are subsidized. That doesn't mean they aren't popular or interesting to the people. They obviously are with 300 million entrances. But it takes subsidies; they don't run on their own. They are a collective interest, not private enterprises.

In the same way in Africa, the biggest problem is not the willingness of the people—from the lowliest Pygmy all the way up the president—to create and endorse the parks. That's the easiest part. The problem is that the infrastructure in most of Africa is not maintained, not managed, because of a high rate of corruption, and quickly growing human populations. Priorities are focused on immediate needs. African parks will require subsidies, just like in the U.S., but the governments in most of these countries won't or can't fill that role.

Compare Africa today with California in the 1850s. That was a frontier state, the government encouraged the exploitation of natural resources for money; it was a landscape dominated by a frontier mentality. Yet a few visionary people got together and they mustered the political will to move governments to act, to create national parks and to support them. In the same way, governments in central Africa are willing, but they need help and they need to demonstrate to their people that they are thinking about their welfare.

In this job, the international conservation community has an almost perfect niche; they can work with national governments, not against them, work with local people, the authorities on the ground, saying: let's put this place on the map; at the same time, let's build an infrastructure, hire personnel, manage this place as a national park; let's create some institutional history and a conservation ethos to stand on.

That takes money and expertise from the outside. As long as you maintain that outside support, collaboration works fine. As soon as you take that support away, in today's

Africa, almost universally, things fall apart. Just like in the U.S., if you pulled government support away from national parks they would collapse. One difference is that, for the most part, African governments can't afford to manage any infrastructure—roads, schools, hospitals, electrical supply, sewage.

So do American and European NGOs [non-governmental organizations] have the money and power to build and maintain a system of national parks in central Africa?

With the money we have, we do amazingly well—because African governments and African people are committed to having protected areas. They can see the writing on the wall and they recognize that protected areas are of value. We have several examples in Congo where the government starts to talk about degazetting [removing protection for] a reserve and invariably the local people say: no way!

But no, the money is not enough; it's far from enough. If we had 100 times more money we could do 100 times more conservation. What we are getting is tidbits. I met with the head of the National Cancer Institute in Washington and asked, "What's your budget?" He said, "5.2 billion this year and we hope to up it to 5.7 billion next year." This is the National Cancer Institute that is just one little branch of the National Institutes of Health. I think this is amazing. The U.S. government is putting \$5.7 billion into curing cancer—in one year!—but will only put \$2.4 million into conserving what is one of the two biggest blocks of tropical forest on the planet.

The forests of central Africa and Amazonia are globally extremely important—probably as important as cancer research—even from the perspective of protecting human health, irrespective of biodiversity conservation. Considering the amounts of money we spend on AIDS, on food relief, on military exercises here and there, \$2.4 million on African conservation is not enough. The U.S. government should be spending at least 10 times that amount. If they were, I am convinced we could be *saving* money in 5–10 years. If we look at water supplies, the spread of AIDS, all the social services we are forced to provide because of refugee problems and wars that arise from deforestation and ecological problems, we would be making a very good investment if we put more money into this. The World Bank, the UN, and the private sector in the U.S. should be putting many more resources into that area.

Consider Bill Gates. He is going to spend billions trying to solve a problem like AIDS, by looking at the symptoms and trying to cure those, rather than the root causes of AIDS

in Africa. If I could direct a paltry \$30 million of his granting budget a year, I could use his money far more effectively than the projects he is supporting in Africa right now. And for his cause, not necessarily for my cause.

I have heard you remark that—even if all the national park proposals that are on the table right now succeed—we are likely to see a loss of 90% of the forests of central Africa in the next few decades. Is that dismal projection within the context of existing funding streams to NGOs, or can we expect that loss even if western governments get more involved?

That projection is based on what resources we can count on now—with, say, 80% certainty. With more money we could protect upwards of 15–20% of the area now under threat. In that case, we are not always talking about national parks, but also about managed landscapes that take ecosystems and ecological function into account and do a really intelligent job of land-use management.

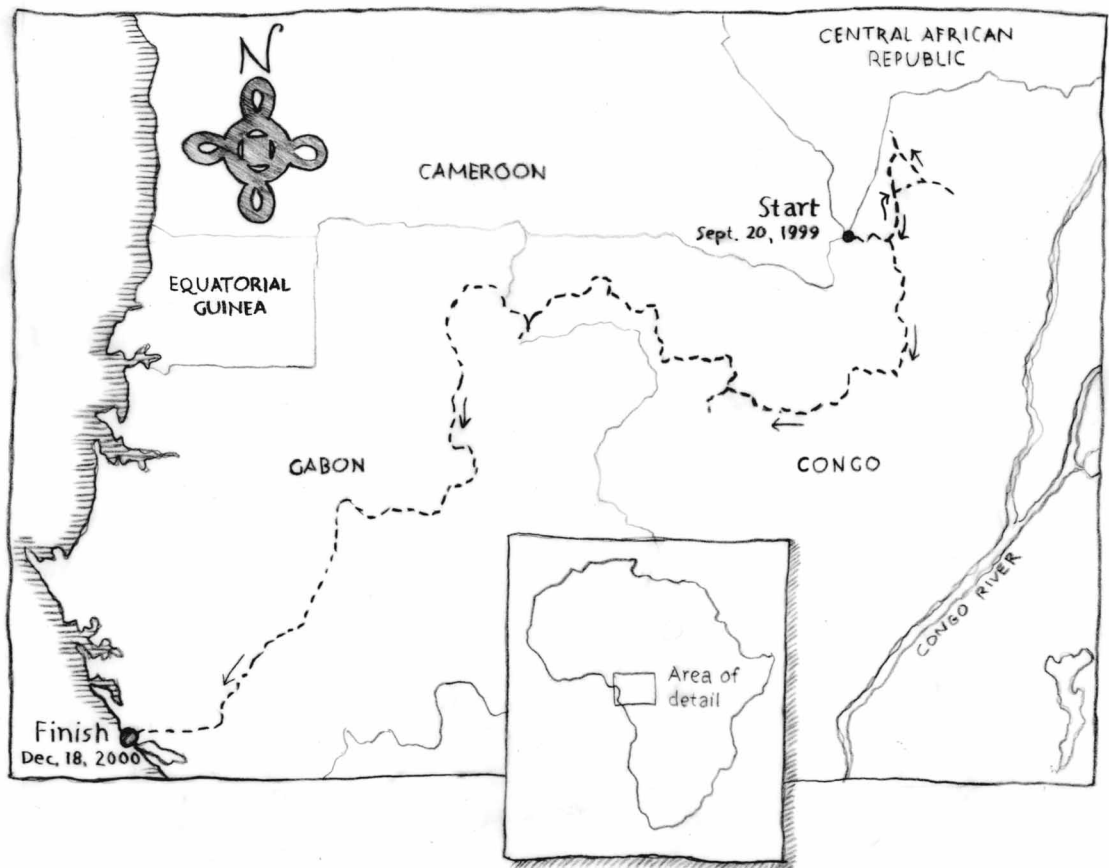
Other, better possibilities exist. For instance, global climate change could create conditions where carbon becomes worth, say, 17 dollars a ton on the world market. If you have

x number of hectares of forest, you have x number of tons of carbon. Forest owners could then negotiate with a power company to guarantee forest protection for the next 200 years, and in exchange get paid 17 dollars per ton. If that were to happen, overnight we could conserve 70% of the forest on the planet and begin wide-scale forest recovery.

Imagining the current trends in deforestation extending into the next 50 or 100 years, do you see your long walk, your documenting of the central African forests, as a kind of memorializing and mourning for what is passing?

Not necessarily. The optimistic view says we will parlay the megatranssect project into more protected areas and changed attitudes in all sectors of society including board rooms of major corporations, the U.S. government, the UN, African national governments, right down to local folks. Increased concern about conservation is one current trend that we can hope to support and strengthen. If we can change attitudes among 1% of the people, that translates into a lot of action on the ground eventually. But of course this kind of change becomes so diffuse it is difficult to document. In some ways, we won't be able to answer: what was the specific benefit of this walk?

Mike Fay's 2000-mile route through the forests of Central Africa—a "megatranssect."



The pessimistic view is that we will end up with 7–8% of these forests in reserves and that, yes, the walk becomes a document of what *was*. In either case, it is a task worth doing. Today, this landscape is so dramatically rich—the forest is vast, the trees are gigantic, the wildlife abundant, like we haven’t seen on the North American continent for 12,000 years. We risk losing the African wildlife, just as we lost the megafauna on this continent at the end of the Pleistocene. Imagine if 12,000 years ago someone was walking around with a video camera and stills camera, collecting data on what was living here, recording the size of trees.

If we are conservationists, we have to be able to put our finger on what we have accomplished to protect the natural world, not what we have accomplished for scientific understanding.

Imagine if someone had walked across the United States in 1700 or 1600 doing what we did on our walk across Africa using the same tools we have today. We would say: “My god, this is amazing. The transect came through this town.” In the same way, our walk document starts now and will exist forever. At whatever point people look back at it, it will be useful. Today, people are looking back at Lewis and Clark’s documentation noting where wolves and bears once lived and aiming for their restoration. Without documentation, it becomes difficult to know what’s been lost, and where to begin the task of helping Nature recover.

It seems that your walk fits a tradition of natural historians going out simply to see what is there. You mentioned Lewis and Clark; I think also of Bartram and Thoreau and Rachel Carson, and, of course, Livingston and Stanley. Do you feel kinship with those folks, and do the pressures of today’s conventions in science—to ask a single question, with a replicable method, that meets a variety of statistical tests, and so on—create expectations that your approach can’t meet?

Yes, to all of the above. My approach starts from my love of wild places and wild things. To be out there looking at the natural world and living in it, is a dream come true. It’s the way I want to live. The hardship of it is not really even a question. If you have that kind of mindset, then ultimately, you are compelled to do as much as you can to preserve the remaining wild places.

Scientific data is very important in convincing people that what you are talking about is real. But the scientific bent I put into my work is not for a scientific reason. It’s a validation. The system I have developed is a quantified natural history walk; it forces you to understand ecosystem function. Just wandering around the woods, you can piece things together. But if you quantify as you go and force yourself to intensively observe a wide number of variables simultaneously—which is very tiring, it’s like being an air traffic controller—all of a sudden it starts to make sense. It is like mathematics. If you study math for a long time, all day every day, your level of understanding gets very complex, very deep. If one concentrates, the connections between widely separated things start to become apparent. Then if you take that data and display it graphically, you can show people the connections.

Because ecosystems are so complex we can’t model them and then prove the model works. What we really have to do is go into the field, collect all these empirical data, and then demonstrate that we don’t know *how* this works but these are the *relationships* that we see.

Will the data you have collected be best used to help us to understand ecosystem function or does it have a direct role to play in conservation?

Our objective is conservation, not science, not education, not exploration. If all these things we are doing—including science—do not lead to our goal, which is conservation, then we shouldn’t be doing them.

Often people conveniently stop at the conclusion that if we understand the science, then conservation will occur. I don’t buy that. If we are conservationists, we have to be able to put our finger on what we have accomplished to protect the natural world, not what we have accomplished for scientific understanding. Our end is not to teach people about conservation. We are here to conserve.

Of course, we have to use all of the tools available to get to that goal. The science that I do *is* leading to the understanding of ecosystem function, but it also makes that understanding accessible to a wide range of people. When I present my results in front of a Congressman, he understands.

The media is another tool. If you can use it to get to your conservation goal, then do it. But, once again, I see people who are photographers, who claim, well, this photographic project is for conservation, and because I have taken pictures

of that place it will translate into conservation. Well that might be true sometimes, it might be an honorable thing for a photographer to do, and it may be fun. But in a lot of cases, it is not effective for saving wilderness and wildlife.

Zoos are another example of this problem. Every zoo in the United States talks about how they are conservation organizations. That's how they bill themselves: we are conservationists. But if you look at what they are doing for conservation—other than a very diffuse kind of education—they are doing almost nothing. They could be doing a lot.

If zoos are for conservation, they should work harder to reach their conservation goals. Simply maintaining animal populations in cities around the U.S., bringing in money to maintain those animal populations, and saying you are educating people is not enough. Every zoo in the United States and around the world needs to be raising money for field conservation and they need to be making conservation happen on the ground. They are in a perfect position to do this because they are listened to at the local level. It is hard to believe, but the vast majority of American zoos have no field conservation programs.

What, then, is the most effective form of conservation? Is it purchasing land outright for national parks, is it establishing good management and, if so, what would that management be?

If you are on the front lines in any frontier area, the most important task is creating land-use management scenarios that organize the colonization of humans on the landscape. When humans colonize the landscape they don't usually do it in an organized fashion and they don't do it with ecosystems in mind. They do it with resource exploitation in mind. Today we are able to plan colonization of the landscape using a much more intelligent approach than was applied in the past.

Willy-nilly frontiersmen conquering the landscape is not endorsed by any country on Earth. If you are going to log on the frontier, even in the Amazon or central Africa, you need a permit. As conservationists, this presents an opportunity. We must focus on intelligent landscape occupation by the human species—which means creating protected areas. Our core work is protected areas.

Identify those areas that are most important or available. Try to go as far beyond or toward the frontier as you can go because there is an ecologically intact landscape at a much lower price. The speed at which humans are now occupying the land means you won't have to worry about a white ele-

phant out there as a national park. It will be surrounded quickly by human settlement anywhere on the planet except for Antarctica. In most cases, protected areas will be surrounded by people in the next 15–20 years.

Go out as deep as you can go into the frontier, work with whatever entity is responsible for the landscape, and make a case for how human occupation should occur: include strictly protected areas, and low-, medium-, and high-use zones—and linkages of natural habitat between the various zones.

The long and short of it is that large protected areas are the currency of conservation—but to secure these areas we do need to look all the way from the center of protected areas to the cities.

The place of people in Nature or outside of Nature is a source of endless debate among philosophers and conservationists alike. This debate takes on urgent practicality in how parks are managed. What do you see as the role of people in parks and protected areas?

I regard the human species as just one other species. It is obviously the dominant species on Earth other than, say, *E. coli*. We have the most impact. We are without a doubt a keystone species in the grandest sense of the term. We are the determinants of much that happens on the planet right now. While we have a very privileged position, we are still part of ecosystems. You can have human use of a landscape without saying, "This is no longer natural, this no longer wilderness." I see this rigid distinction as an impediment to what conservationists do.

Instead, we should be looking at impact. The more heavily the human species uses the landscape, the less that survives on that landscape. Any animal that overuses the land can dramatically affect all other species. Elephants are a good example. In some places in Africa, elephants become overpopulous and completely destroy the vegetation. This causes species loss, and causes erosion, and leads to ecological collapse. We have to regard humans as another kind of elephant.

What we need is management, because the human species has become so populous that if we don't manage we will end up with nothing in a short period of time. That's going to take an evolutionary shift in the way people regard their place on the planet.

We are so far from that evolutionary shift it is frightening. But, eventually, we will shift our ways. That will happen one of two ways: catastrophically or by using our brains. If we want to avoid catastrophe, let's use this brain we have to make shifts.

Do you think the megatranssect method is applicable to North America?

Absolutely. I have been wandering around Rock Creek Park in Washington, D.C. for the past eight months and have introduced the transect methodology to the park service there. The park is 1,800 acres, in the middle of a city, with hard boundaries; it experienced several events of ecological collapse in the past, followed by re-greening and reconnecting through wildlife corridors to Maryland and the Potomac Valley. Blocks of forest are 200 to 300 meters wide—not 150 kilometers wide, like in Africa. Yet when I look at the human trail system and infrastructure—and then map out polygons based on land use and vegetation, and traverse those polygons on a transect—the trends are obvious. Of course, they are not the same trends you would see in the forest of Africa, but in either case the megatranssect methodology is an effective way to collect background information.

For example, deer reappeared in the park in 1987 after being absent for at least 100 years. Suddenly they are back. What are the deer doing in Rock Creek Park? Where are they? Why are they there? You see, for instance, that they are much more abundant on a mosaic of golf course and forest-land, and they avoid roadways in the daytime; you see that they concentrate on oak mast fruiting in October. All this information can be gotten from the megatranssect methodology. There are many associations out there—and this is the heart of the method. It can be used anywhere: on a boat ride or a submarine path.

You have implied that good management in part means deciding where humans can occupy the landscape. You have also said that wilderness doesn't necessarily have to be a place where humans don't live. Do you see value in setting aside wilderness areas, such as we have in the United States, where "man is a visitor who does not remain"?

Wilderness is a nebulous concept. The human species has evolved over the millennia and over this span of time it has occupied the landscape to a greater or lesser degree and in various ways. Look at North America: the human species has only been here for 21,000 years. Maybe the landscape before that time was what we want to call wilderness. But, from a practical point of view, it is difficult to make management decisions based on a landscape that existed 21,000 years ago. I'm not saying that there shouldn't be places without humans, I'm saying that the concept of wilderness is nebulous.

What, then, is the value of wilderness?

People find spiritual meaning in wilderness. I do. But we also have to recognize the biological component in the way we see landscapes: human beings look at abundance in an ecosystem and are biologically programmed to see it as beneficial. We see lots of animals running around in a landscape and we think—good. Why do we think that? Because we eat them. Our biology, our evolution, says: lots of animals here, lots of trees—good. Open areas—good. Black soils—good.

I don't think of wilderness as just spiritual or a cultural construction. I believe that it is innate. That big fat guy from Chicago who comes to Africa in his safari suit, chasing after cheetahs and lions and looking at lion kills is thinking, "This is fabulous!" not necessarily because he is a conservationist but because people are genetically predisposed to love Nature. Abundance in Nature—good—that is all he has to know. Wilderness has everything to do with our biology. We have to consider the biological reasons for why people might think that wild places—and therefore protecting intact, wild ecosystems—are good.

We need to educate everyone on the planet that we still need Mother Nature to survive and that abundance is good. We are intelligent enough to figure out how we can save the majority of species on Earth; we can assure that water continues to flow and plants continue to grow and wildlife survives. It is an attainable goal and one that we need to accomplish as fast as we possibly can. ☾

UPDATE Gabon Protects Rainforests

Mike Fay's efforts appear to be paying off. On September 4, 2002, the nation of Gabon announced that it will preserve 10% of its land in a system of national parks. A key motivation for Gabon's president El Hadj Omar Bongo: photographs of gorillas in the rain forest, taken on Fay's journey. U.S. Secretary of State Colin Powell traveled to Gabon to announce \$72 million of State Department and NGO support for the parks initiative and other conservation efforts in the Congo Basin. Fay led Powell on a walking tour, following elephant trails to the beach. With 13 new parks covering 10,000 square miles Gabon will move to the top of the list of nations—second only to Costa Rica—in terms of lands protected for biodiversity.