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Return of the Wild

Will humans make way for the greatest conservation experiment in centuries?

By [Adam Federman](#)

John Davis was roughly 5,500 miles into his 2011 trek from Southern Florida to the Gaspé Peninsula in Quebec when he passed through the Adirondack Mountains, where he has lived for the last 18 years. He spent a couple of days sailing and hiking around the southern shore of Lake Champlain, including the Split Rock Wild Forest. The 4,000-acre bloc of state forest land is the centerpiece of what Davis hopes will one day be a wildlife corridor – the “Split Rock Wildway” – linking Lake Champlain with the Adirondack High Peaks

farther west. Once complete, the wildway would encompass about 12,000 acres. But it would be just one small piece of a much larger puzzle that Davis set out to highlight on his 7,000-mile journey. That larger puzzle is called “the Atlantic megalinkage.”



illustration Doug Chayka

The megalinkage, if ever created, would be a vast network of wildlife habitats. It would connect eco-regions like the southern coastal plains of Georgia to the Appalachians and the Green Mountains of Vermont and from there to parts of southern Quebec, in the process protecting and allowing for the reintroduction of keystone species. Davis undertook what he called “[TrekEast](#)” because he wanted to get the view from the ground – by boat, bike, and foot – of what an eastern wildway might look like. In essence, he wanted to see if it is even possible.

The obstacles to implementing the idea are legion, from the dense network of roads that carve up the East Coast, to the absence of large nature reserves, to the public’s resistance to predators like wolves and cougars once again

roaming the woods. But after months of traveling and meeting with conservationists, local officials, and scientists Davis came away “cautiously optimistic that it is still possible to create an eastern wildway.” Optimistic enough to set out again in early 2013 along the arc of the Pacific megalinkage, which would stretch from the Sonoran highlands of Mexico to southern British Columbia.

When he completes [TrekWest](#), Davis will have traveled two of the four megalinkages outlined by Dave Foreman in his 2004 book, [Rewilding North America](#). Along with the spine of the continent and an Arctic/boreal megalinkage, the four wilderness networks comprise what Foreman considers the “minimum requirement” for the re-establishment of North American wildlands. Imagine a series of large protected areas, many of which already exist, held together by a patchwork of corridors that allow for the reintroduction and movement of top predators. The return of predators will, in turn, help the rehabilitation of ecosystems – the grasslands of the Midwest and Western states, for example.

The project’s ambition is a measure of the task at hand: Nothing less than reversing what is known as the sixth great extinction and restoring the planet’s imperiled biodiversity. “Our vision is simple,” wrote Foreman and a group of conservation biologists in a 1992 statement for the Wildlands Project. “We live for the day when Grizzlies in Chihuahua have an unbroken connection to Grizzlies in Alaska; when Gray Wolf populations are continuous from New Mexico to Greenland; when vast unbroken forests and flowing plains again thrive and support pre-Columbian populations of plants and animals; when humans dwell with respect, harmony, and affection for the land; when we come to live no longer as strangers and aliens on this continent.” This grand vision of continental-scale conservation seeks to protect not just specific landscapes (the project of nineteenth- and twentieth-century conservation), but entire ecosystems.

Similar projects are being considered around the world. In the Netherlands, conservation biologists are rewilding a 22-square-mile preserve – the *Oostvaardersplassen* – with Heck cattle, Konik ponies, and red deer to create a simulacrum of the landscape as it was 13,000 years ago. The European Green Belt, which would extend more than 5,000 miles from the Barents Sea in the north to the Black Sea in the south, is an ambitious attempt to restore the former militarized zones in Eastern Europe. In North America the “Buffalo Commons,” first proposed in the late 1980s, would convert millions of acres of land in the Midwest into native short grass prairie dominated by bison.

These hoped-for ecosystem restorations could be thought of as the inverse of the fever dreams of the atmospheric geoengineers who want to hack the sky. To be sure, they involve human engineering of natural systems – but primarily for the benefit of other species, not humans. Rewilding could be the virtuous expression of the idea of the Anthropocene: a way of taking responsibility for, though not ownership of, natural systems and recognizing that we have a great deal of repair to do.

In her 2009 book, [Rewilding the World](#), Caroline Fraser makes that case. She writes: “For centuries, we have been Shiva, destroyer of worlds, burning forests, poisoning lakes, emptying oceans. Now we are refashioning ourselves as a creator, recovering wastelands and making them whole.”

I met John Davis last June at the entrance to Split Rock Wild Forest and we walked for several hours in the open woods and steep cliffs that overlook Lake Champlain. Split Rock Wild Forest is part of the West Champlain Hills, one of the most biologically diverse ecosystems within the 6-million-acre Adirondack Park. By one estimate it is home to at least 70 plants that are rare or uncommon in northern New York and contains some of the Park’s only oak-hickory-hop hornbeam forests. It is also prime habitat for moose, black bear, bobcat, fishers, river otters, weasels, and beavers. After being

nearly driven to extinction, bald eagles have returned. For the past year Davis had been keeping tabs on a nest near Snake Den Harbor, and we hoped to get a glimpse of them.

Like much of the land in the East that is considered desirable for large scale conservation planning, Split Rock Wild Forest is surrounded by a mix of private land, small roads that – despite their gentle appearance – are lethal barriers to wildlife, and homes whose residents must be part of any successful rewilding campaign. Protected areas like the Adirondacks make up just 20 percent of the Atlantic megalinkage, and those areas are heavily fragmented.

“What we really need to do to make this happen is to think outside of protected areas,” says Robert Baldwin, a biologist at Clemson University and co-editor of [*Landscape-scale Conservation Planning*](#). “No matter where you look you’re going to find about 80 percent of the land cover is owned privately. And it’s in a very complex matrix. Nobody designed the protected area system with habitat connectivity in mind.” Not only is the majority of the land private, but it’s also carved up by millions of miles of roads, from major interstates to primitive logging roads.

There are other obstacles. Decades of fire suppression and habitat loss have altered the dynamics of forests, especially in the Southeast (most notably the longleaf pine forest ecosystem, which once stretched from eastern Texas to Virginia). Many fire dependent species such as the gopher tortoise and native bamboo have suffered catastrophic declines as a result. To bring them back to even a shadow of their former selves, a more natural cycle of fire and regeneration will have to resume. In a similar way the damming of rivers and waterways has disrupted natural flood regimes and riparian habitats in places like the Florida everglades and the coastal plains. Finally, the persistent drumbeat of development, from oil and gas exploration to the construction of second homes, continues to divide the East Coast. Given this backdrop, the idea of rewilding even small parts of the region might seem like pure fantasy.

But, according to some biologists, there has never been a better time to consider such a proposal. Several trends make the case for an eastern wildway far more practical than it might appear.

Rewilding could change how we relate to the natural world.

The first is the recovery of forests during the last century. By the early 1900s much of the Northeast had been clear-cut, overhunted, and overtrapped, leaving behind a barren environment. Today that picture has been reversed: 33 million of New England’s 42 million acres are forested, an astonishing recovery by any measure. Rural depopulation and the decline of agriculture, the consequences of which are far from certain, also could be leveraged to establish large eco parks. “The landscape is just way more connected now than it was 100 years ago,” Baldwin says. “Generally speaking we would have an easier time now designing and implementing a connected landscape from the Florida Keys to Quebec than we did 100 to 150 years ago.”

The second factor is the rapid growth of conservation easements – the setting aside of private land for conservation purposes, if not for public use – and the proliferation of conservation land trusts (there are now more than 1,700 in the United States) whose primary aim is to expand protected lands. Since 2000, roughly 23 million acres of land have been conserved by state, local, and national land trusts. In New York State alone more than 970,000 acres of land have been conserved in the last five years, a large percentage of that in the Adirondacks.

Split Rock Wildway is a good example of how land trusts, the state, and individual conservationists have come together to establish a wildlife corridor. But even here, in the middle of a Park with a long history of environmental advocacy, it hasn't been easy. Planning for the Split Rock Wildway began in the mid-1990s and the various groups involved are only about halfway to reaching their goal. Still, Davis sees the Adirondacks as an ideal place to launch a more far reaching rewilding initiative, one that eventually allows for the return of predators like cougars and wolves. He says the Adirondacks could become the Yellowstone of the East.

When Davis and I reached Snake Den Harbor he peered over the edge of a steep cliff and pointed out the eagle's nest. Three bald eagles were sitting motionless in the late morning sun. Soon the mother, alert to our presence, took flight. In a matter of seconds she was high above the trees, sweeping across the cloudless sky.

After our walk I went back through the blog that Davis kept during his trek. "The Adirondack Park is the wildest landscape in the East," he wrote, "yet not nearly wild enough." If the Adirondacks, one of the oldest and best protected chunks of land in North America, isn't wild enough, then what about the rest of the East Coast? Can its ecosystems be restored? And if it has taken Davis and others more than a decade to establish the outlines of a relatively modest wildlife corridor from Split Rock Wild Forest to the High Peaks, is there any hope that such a scheme can be replicated over a much larger landscape?

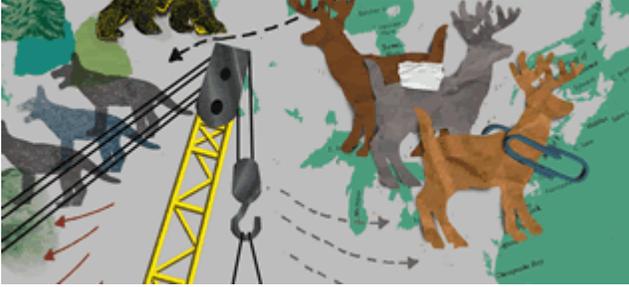
Whatever the difficulties may be, there is a growing sense among conservationists that the old model of nature protection – setting aside large but isolated wilderness areas – is no longer viable. There's also a sense that what E.O. Wilson has called a "discipline with a deadline" is running out of time.

"There's really no option," Baldwin says. "We need large interconnected landscapes if we're going to survive as a species. And in the East it's a big challenge. But we have this opportunity right now to piece together something that resembles an intact set of ecosystems."

Fifty years ago the likelihood of seeing a bald eagle in the Adirondacks would have been extremely low. A combination of sport hunting, habitat destruction, and the impact of DDT had driven the bird nearly to extinction. By 1960 a once thriving population in New York State had been reduced to a single active nest and a few dozen wintering visitors.

Beginning in 1976 the state launched an ambitious recovery effort whereby birds from Wisconsin and Alaska were released into the wild. Over a 13-year period more than 200 eaglets were released. According to the latest figures, in 2010 New York was home to 173 breeding pairs and more than 600 wintering visitors. Bald eagles have also returned to several other Northeastern states. "If you had told me when we began that the final numbers would be anywhere near that I would have thought you were out of your mind," says Peter Nye, who directed the eagle restoration program for the Department of Environmental Conservation until his retirement two years ago. "It's been tremendously successful."

But the 1970s were a different time (the Endangered Species Act was passed in 1973 and the bald eagle among the original species listed) and the eagle much safer than cougars or wolves from a public relations point of view. Given current economic conditions and the politicization of the ESA, Nye says, it would be difficult to sell a restoration program like the one that brought bald eagles back. Even a moose restoration plan put forward in 1980 failed to get the kind of public backing needed to



receive state funding. Nye says: “People saw a few moose coming back in from New Hampshire and Vermont and said, ‘They’re okay on their own. We don’t need to spend the money.’” In fact, moose have since returned to New York State and are now well established.

Eagles were not the first species to disappear from the Northeast. Beginning in the mid-to-late 1800s, cougars and wolves were driven to extinction. Although gray wolf populations survived in parts of eastern Canada, they have been unable to reclaim their native habitat south of the border. On the few occasions that wolves have ventured into Maine, they have been promptly shot, which is illegal, since the wolf is still a federally protected species in the Northeast. Other species like beaver, deer, caribou, and moose also suffered precipitous declines in the late nineteenth century. Since then (with the exception of caribou) these populations have recovered.

Implicit in Davis’s assertion that the Adirondacks isn’t wild enough is the absence of top predators like cougars and wolves. The aesthetic and spiritual case for bringing these animals back has been made for some time. But it is only in the last few decades that a deeper understanding of the role of predators in regulating ecosystems – from controlling prey to maintaining healthy plant communities – has taken hold. The notion of “top down regulation” is central to any rewilding effort. Not only do the large carnivores help to restore ecological balance, they require large amounts of protected habitat as well as corridors that connect those areas.

This may require modifying roads so that wildlife can travel from one area to another without being killed. It also means educating the public – farmers, ranchers, and hunters, among others – about why these animals are central to the long-term sustainability of any ecosystem. Public acceptance is just as important as biological feasibility.

“The thing about reintroductions that really needs to be kept in mind is that they take an enormous amount of expense, time, and energy if you do them properly,” says Justina Ray, executive director of [Wildlife Conservation Society Canada](#). “In fact, we have to make sure that we do the right thing, that we do it right, before subjecting animals to reintroduction and possible failure.”

Perhaps the most well known example of a successful predator reintroduction in North America is that of wolves in Yellowstone. In 1995 wolves from Alberta were released into the Lamar Valley, along the northeastern edge of the park. They have since dispersed and, along with wolves from Canada, established populations in Idaho, Oregon, and Washington.

Not only have they demonstrated that there is enough habitat and prey to thrive, they have also begun to slowly alter the region’s ecology. Historical records show that beginning in the early 1900s, when wolves disappeared from the park, the growth patterns of cottonwoods, aspen, and willow were dramatically impacted. Bob Beschta, who began studying cottonwoods in the Lamar Valley in 2001, says he didn’t initially think wolves were a big part of the equation. “I didn’t really go there to study the effects of wolves,” he says. “Because at the time I thought, well, there’s 15,000 elk and there’s 50 wolves, what difference could it make? It just seemed to me like they were inconsequential.” But it turns out that since wolves have returned they have altered elk behavior and spurred the recovery and growth of important trees and plants. It didn’t happen overnight, and the changes have been

incremental, but the wolves' return has started a process of recovery that has broad implications for Yellowstone and beyond.

Why bring these big predators back? "One of the big reasons, ecologically," says Beschta, "is that without them these deer, these ungulates, are revamping your systems. They're totally changing where they're going to go."

Advocates of wolf and cougar reintroduction in the East have had little success. It is generally believed that the region is too densely populated and that there isn't enough open space to support large predators. But that view is now being challenged. John Laundre, a biologist at SUNY Oswego, published a paper in January arguing that the Adirondacks could support a healthy cougar population. In addition, recent research has shown that these animals can live in much closer proximity to humans than previously thought. "If you look at public opinion surveys in the West, where people just consider it part of the landscape, people are pretty accepting of having cougars and not particularly fearful of having them around," says Mark McCollough, an Endangered Species Specialist with the US Fish and Wildlife Service. In California, which has a cougar population of between 4,000 and 6,000, interactions with humans are rare.

"You've got wolves running up and down the peninsula of Italy," says Chris Spatz, president of the West Virginia-based [Cougar Rewilding Foundation](#). "The Carpathian Mountains of Romania have a higher human density than interior New England and you've got brown bears, European grizzlies, and wolves all over the place. So we know we can do this."

[Read more in our special issue exploring the consequences of a new geologic epoch: the Anthropocene.](#)

Even if cougars could survive in parts of the Northeast, most observers agree that there is little interest on the part of state agencies or the USFWS in a potentially controversial reintroduction. In the absence of any federal program, Spatz says his foundation plans to launch a national recovery plan, first for cougars and then possibly other large predators. "We're making the argument that this is actually based on what we know about ecosystems and how wolves and cougars kind of guard and shepherd ecosystems," he says. "There's no reason the Adirondacks should not only have cougars, they should have wolves and elk and moose and forest bison and lynx. The whole ecosystem should be back there."

Making ecosystems whole. That is the aim of rewilding. The science is there: We now know that even parts of the East, once written off as untenable sites for reintroduction, are capable of supporting wolves and cougars. If given the opportunity, there is little doubt that they would continue to expand their range. The question is whether humans will allow for their return.

If the reintroduction of wolves into Yellowstone serves as a kind of model, a bright spot in an age of grim ecological forecasts, it is also a stark reminder of just how far we have to go. Currently a population of about 5,000 wolves occupies only 5 percent of its historic range, a fragile recovery at best. Yet the backlash has already begun. In 2011 the federal government removed Endangered Species Act protection for wolves in Montana and Idaho as well as parts of Washington, Oregon, and Utah. Then in March of last year the USFWS recommended removing protections for remaining gray wolf populations, with the possible exception of some subspecies and breeding populations. A month later Wyoming's legislature followed suit, stripping ESA protection for its flagship population. The results have been troubling: Since 2011, more than 700 wolves have been killed across the western

states; in December 2012 a well known alpha female who was part of the Lamar Valley pack was [shot outside the park's boundaries](#). Cougars face a similar situation just as they are beginning to expand their range from the Dakotas and Wyoming into the Midwest.

Of course, rewilding is about much more than returning predators to the landscape – it is about connecting habitats, restoring ecosystems, and radically changing the way humans relate to other species and the natural world more broadly. Whether we choose to let these large predators survive, though, may determine the future of conservation in North America.

“I think the importance of rewilding will increase in years to come,” says Steve Trombulak, a biologist at Middlebury College. “Whether we as a civilization will become mature enough to take it seriously and invest in it as a society, I have no idea.”

Adam Federman's last feature story for the Journal was about natural gas [fracking's connection to a fish die-off in West Virginia](#). You can find more of his work at [adamfederman.com](#).