Healthy Communities and Urban Natural Resource Stewardship

America’s Forests and Cities: Then and Now

The USDA (Department of Agriculture) Forest Service has direct and indirect roles on most of our nation’s 885 million acres of forests. When the Forest Service was created in 1905, only 13 cities worldwide had populations of one million people or more. Eighty years later, 230 cities have a population of more than one million people. In the new millennium, it is projected that there will be more than 400 cities with a population of one million people and 26 megacities with populations of more than 10 million people. Looking nationally, about 50 percent of our nation’s population lived in urban areas in 1920. Today, about 83 percent of our people live in cities and towns. Simply put, this is the first century in our history that the majority of humans live in urban areas.

The Chief of the Forest Service has a responsibility to help ensure that forested landscapes, including those in urban areas, are healthy, sustainable, and provide the required green infrastructure that effectively links environmental health with community resiliency and stability. In partnership with states, municipalities, and non-governmental organizations, the Forest Service has (continued on page 4)
From the President

Biophilic Cities and Resilience Landscapes

Depending on whom you talk to, cities are either the most sustainable—or most unsustainable—form of human habitation on the planet. Large cities require vast amounts of food, water, and material to be brought in daily, and similarly vast amounts of waste and refuse to be shipped out and absorbed somewhere else. They draw in the resources of an enormous surrounding landscape, and their disproportionate economic and political power allows them to outcompete rural communities for both natural resources and human capital.

On the other hand, concentrating human development in metropolitan centers greatly reduces the per capita demand for energy and space, and facilitates the interdependent cooperation that forms the basis for economic and social organization, and that leads to steady advances in technology, architecture, art, and other hallmarks of human civilization. The growth of early cities like Athens and Rome stimulated the development of the first aqueducts, sanitation systems, and transportation networks, along with higher education, science, and democratic government.

America has had a tempestuous romance with its cities, falling in love with them, then out, then in again. At the turn of the 20th century, America’s population was more than 60 percent rural and agricultural. Industrialization lured millions of people from farms in the South and Midwest to new economic opportunities in the Northeast and in California. In the second half of the 20th century this tide reversed. Increasing
affluence allowed more people to own cars and flee the cramped and polluted confines of the cities for the burgeoning suburbs that exploded across the American landscape in the “housing boom” of the 1950s and 1960s. These communities too required vast inputs of resources. Public and private forests supplied wood to construct more than 21 million new homes between 1945 and 1960. Food and fiber came from highly mechanized large-scale agriculture in distant regions of the country, facilitated by a new interstate highway system and abundant supplies of cheap energy.

Today we are finding our way back to the cities. By 2014, more than 81 percent of Americans resided in metropolitan areas. This is in part because of the passing of the era of cheap energy and its associated externalities of polluted air and water, and global impacts on climate. But there is more. We are reinventing our cities, making them more sustainable and turning them into the kind of places in which people actively choose to live, work, and raise their families.

Major new advances in building technology and energy use are making cities much more efficient consumers of lower per capita inputs of fossil fuel energy. Innovations in geothermal, solar and wind energy technologies have demonstrated that buildings even in northern cities can be nearly energy self-sufficient. The energy costs of producing and transporting food into cities are being reduced by the increasing appeal of locally-grown fresh foods, including those produced right in cities in colder seasons from “vertical greenhouses” in converted high-rise buildings.

Perhaps most important in the long run is the complete reconceptualization of cities that is taking place, from hardened built environments apart from nature, to functioning urban ecosystems inextricably intertwined with the natural systems in the broader regional landscapes in which they are located.

Stormwater has long been a problem for cities not only in terms of flooding, but in contamination of waterways and estuaries when pollutants are washed into them and sewage treatment systems are overwhelmed. Cities such as Philadelphia are now opting out of building more concrete and steel “gray infrastructure” to handle stormwater, and investing in the conservation of upstream floodplains with natural capacity to accept, absorb, and moderate stormwater surges.

With leadership from visionaries at the William Penn Foundation, the US Endowment for Forestry and Communities, the Natural Resource Conservation Service, the US Forest Service, and the Pinchot Institute, Philadelphia is also learning the importance of investing in the conservation of forests many miles from Independence Square, in the headwaters of the Delaware River. The Common Waters Partnership in the Delaware River watershed is providing a new model for protecting critically located private forest land from development, making these forests more resilient to severe storm events and other manifestations of climate change, and providing clean drinking water to more than 16 million city dwellers in the most urbanized region of the country.

The emerging idea of “biophilic cities” goes beyond improving the sustainability and resilience of cities, and dives deeper into the social and psychological aspects of making cities more appealing, more healthful, and more fulfilling places to live. The early work on urban sustainability focused largely on green buildings and energy efficiency. The idea of urban resilience revolved around reshaping cities to be less vulnerable to shocks associated with water scarcity, energy disruptions, and lately to the effects of climate change.

The concept of biophilic cities subsumes both of these, but goes a significant step further. Pulitzer Prize-winning biologist E. O. Wilson first coined the term biophilia to describe “the innately emotional affiliation of human beings to other living organisms, and the instinctive human need to connect with the natural world.” Biophilic design that incorporates nature and natural elements appeals to something deeply embedded in human genetic memory—of landscapes ideally suited to providing the basics of food, shelter, security, and comfort. Across the world’s cultures and ethnicities there is an uncanny preference for prominent landscapes characterized by a mix of grasslands and open woodlands, overlooking a nearby body of water. Is there something vestigial about the woodland savannas of east Africa from whence humans emerged that continues to shape what we instinctively seek out in parks, natural areas, and livable communities?

Sustainable urban ecosystems as we think of them today maintain functional natural elements at multiple scales—buildings, neighborhoods, cities, and regions—with a far (continued on page 22)
been formally engaged with the management and care of approximately 138 million acres of trees and forests in cities, towns, and communities since the early 1970’s. At the heart of ensuring the proper care of America’s urban natural resources and improving people’s lives are the collaborations among federal, state, and local governments and a wide range of partnerships. The slogan that illustrates the mission of the Forest Service is “caring for the land and serving people.” As we face the conservation demands along the entire rural-to-urban land gradient, we must embrace the challenge and opportunity that arises as we view the scope of the motto differently. That is, “caring for the land and serving people, where they live.”

Rising Up to Meet a Changing Landscape and Constituency

The spatial extent of our urban areas is growing. Cities are no longer compact; they sprawl in spider-like configurations and increasingly intermingle with wildlands. As a result, new forms of urban development have emerged including a wildland-urban interface in which housing is interspersed in forests, shrublands, and desert habitats. Along with this spatial change is a shift in perspectives, behaviors, and constituencies. Although many of these habitats were formerly dominated by agriculturalists and foresters, they are now populated by people from urban places, who, in turn, draw upon a more urban experience. While growth may be inevitable, smart growth should be the guiding principle if we are interested in the sustainability of our natural resources and its linkage to the protection of lives and property.

In caring for urban forests, our focus and engagement goes well beyond trees. We are interested in the stewardship of the urban environment across a broad range of urban forest site types, including parks, community gardens and orchards, waterfronts, wetlands, meadows, brownfields, and vacant lots. One of the most enduring lessons of cities is the important and vital relationship between grey infrastructure (e.g., streets and buildings), green infrastructure (e.g., forests, parks and open spaces), blue infrastructure (e.g., streams, ponds, lakes, and harbors), and the human communities that create and inhabit cities and their infrastructures.

CITIES ARE UNIQUE IN THAT THE SHEER DENSITY OF PEOPLE INTERACTING WITH NATURAL RESOURCES CAN CREATE NEW AND UNIQUE BENEFITS. RESEARCH AND EXPERIENCE INDICATE THE IMPORTANT ROLE THAT TREES AND URBAN NATURAL RESOURCES PLAY IN CREATING HEALTHY PLACES FOR PEOPLE TO LIVE: LINKAGES WITH BETTER SCHOOL PERFORMANCE, REDUCED CRIME RATES, AND GREATER SOCIAL COHESION. ENGAGING VOLUNTEERS AND COMMUNITY GROUPS IN THE STEWARDSHIP OF THESE RESOURCES CAN INCREASE CIVIC ENGAGEMENT, NEIGHBORHOOD EFFICACY, ECOLOGICAL LITERACY, AND MARKET INNOVATION. THE BODY OF RESEARCH IS BECOMING TOO LARGE TO IGNORE AND DIFFICULT TO CATALOGUE. SIMPLY, HEALTHY URBAN NATURAL RESOURCES SUPPORT HEALTHY URBAN PLACES AND PEOPLE.

Over the last few decades, through its Urban Natural Resource Stewardship program, the Forest Service has emerged as a leader in developing cutting-edge urban research and practices through strategies that include—and begin with—people.
The Role of the Forest Service and Federal Service

In the rapidly urbanizing landscape, research collaborations have evolved to better address issues related to urban natural resources stewardship and system dynamics, including sustainability and resiliency. The majority of our work takes place through partnerships and collaborative models, focusing on social-ecological systems research to produce useful knowledge for land managers and decision-makers. For example, our program in Baltimore is one of just two urban National Science Foundation (NSF) Long-Term Ecological Research sites, along with the Central Arizona-Phoenix project. Accompanying the NSF, the Forest Service has provided core funding and support to the Baltimore Ecosystem Study as it spans everything from conceptual models and theory development, to empirical studies, to research applications and community engagement, to science and art. It offers a model of an expanded view of the Agency’s role in “urban forestry” research, broadly defined.

Over the past few years, the Forest Service has begun to establish a network of Urban Field Stations in densely populated metropolitan regions. This network is part of the long arc of Forest Service Research and Development (R&D) investments in place-based, long term research first begun with the Experimental Forest and Range Network. Currently, there are 80 Experimental Forest or Range sites, but none of them are located in urban areas. The Urban Field Stations create new opportunities to engage with local experts and connect with practices of urban natural resource management that may be more than a century old in many of our nation’s cities. Comprised of multi-disciplinary science and practice teams, Urban Field Stations have been established in Baltimore, Chicago, New York City, and Philadelphia. Solid programs of urban research have emerged in San Juan, Seattle, Portland, Atlanta, and Sacramento, and work has begun in Los Angeles and Denver. Much work remains to be done.

The shared mission of the Urban Field Station Network is to improve the quality of life in urban and urbanizing areas by conducting and supporting short-term and long-term research about urban social-ecological systems and natural resource management. Urban Field Stations are designed to address pressing questions facing urban and metropolitan regions in the US and beyond. Urban Field Stations are physical places to conduct research but are also networks of relationships among scientists, practitioners, and facilities within cities but also across the Forest Service R&D network. Working in conjunction with local partners, the Forest Service is growing the network of scientists working directly in cities and advancing a research-in-action agenda, whereby scientists and urban natural resource managers work iteratively to inform knowledge and practice.

While each field station responds to the unique environmental, social, and organizational characteristics of their place and partners, they also work within the network to share data, leverage resources, and promote comparative and interdisciplinary research. For example, the pioneering stewardship mapping research (STEW-MAP) in New York City has been replicated in Baltimore, Seattle, Chicago, and Philadelphia. Programmatically, a fellowship program developed in Philadelphia has been modified and adapted to New York City. The field stations are innovators in creating knowledge at the interface of research and practice, as evidenced through collaborations such as TreeBaltimore, Chicago Wilderness, and the MillionTreesNYC campaign. They also innovate in the area of science communication and translation by creating novel and non-traditional research products; convening public events such as seminars, workshops and symposia; maintaining a strong presence in traditional and online media; and supporting artist-in-residence programs.

“Working in conjunction with local partners, the Forest Service is growing the network of scientists working directly in cities and advancing a research-in-action agenda...”
Conclusion

The ambition and contributions of the Urban Field Station Network continue the Forest Service’s lineage and traditions, characterized by the maxim of our first Chief, Gifford Pinchot, when he described the Forest Service’s role to promote the “...greatest good for the greatest number for the longest time.” Urban natural resources stewardship may address this maxim more completely than any other conservation imperative the Agency embraces. Although the Forest Service does not own or manage land within most urban areas, nor does it regulate any aspect of the urban environment, it nonetheless has a crucial role to play across the country.

The Forest Service’s Urban Field Stations can best fulfill these roles with participation from all the Agency’s Mission Areas and its partners. Some of these partnerships are already underway. The Urban Field Stations can link urban populations to the National Forest System through the water they drink, the wood they use, and the places they recreate. State and Private Forestry can share best management practices, support new innovations, and provide training. Forest Service Research and Development can develop new knowledge and applications for better understanding and managing urban natural resources. Conservation Education can develop educational materials for people with information from where they live. The Partnership Office can develop strategies for building synergies and amplifying the reach of the Urban Field Station Network throughout the country by collaborating with national and regional organizations such as The Pinchot Institute, The Nature Conservancy, Conservation Fund, Wildlife Habitat Council, and many more. International Programs can link the experiences and expertise of the Forest Service to promote urban sustainability and resilience throughout the world. Thus, the vision of the Urban Field Station Network is to be an inclusive platform, advancing the roles and resources of the entire Forest Service to provide the “greatest good for the greatest number for the longest time,” wherever they might live.

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Reference

When people think about ecosystem services, they often picture a wilderness landscape with clean rivers flowing through healthy forests. This landscape is producing food, medicinal herbs, fiber, clean air, and clean water among other important services that humans depend on for survival and quality of life. However, we seldom think about the extent to which these same benefits are, or are not, being produced within urban areas and the built environment.

There are significant consequences to ignoring the potential for the built environment to produce and deliver ecosystem service benefits. Removing nature from an urban landscape, or failing to maintain that urban landscape in harmony with the ecosystem that encompasses it, reduces the resilience and sustainability of those communities. With an ever-increasing majority of people living in urban areas, the role of ecosystem services production within urban boundaries cannot be ignored. The ability of these urban areas to provide quality of life over time is inextricably linked to our ability to integrate ecosystem services into our urban planning and design practices.

Accordingly, promoting ecosystem services within the urban context is critical to improving the human condition and ensuring the ongoing vitality of our communities. But understanding the role and need for ecosystem services in urban areas is a nuanced issue that requires us to move beyond simplistic models that create a dichotomy of nature versus human development, or ecological functions versus technology. In an urban context we cannot draw a bright line between “natural” and “human.”

Creating a Dialogue with Nature: The Bullitt Center

The Bullitt Center is a 50,000 square-foot office building located in Seattle’s Central Area. Called “the greenest commercial building in the world,” the project was the first multi-story office building in a dense urban neighborhood to achieve the Living Building Challenge—the most rigorous benchmark of sustainability in the built environment. To meet the Challenge, the Bullitt Center was required to achieve a set of “imperatives,” including generating as much energy as it uses in a year, avoiding toxic materials, and capturing rainwater for all purposes, including drinking.

Given these requirements, it was natural to wonder about the value of the benefits produced by the building.

To answer this question, researchers from Autopoiesis, Ecotrust, and EcoMetrix Solutions Group dug into the ecosystem service values generated by the building. Optimizing Urban Ecosystem Services: The Bullitt Center Case Study, found that just six of the building’s green features will produce up to $18.5 million in benefits to society over the life of the building. This is the first time ecosystem service values have been calculated for a building.

Ecosystem services are benefits provided by natural systems to support all life on earth. Such benefits accrue...
broadly to society rather than directly to building owners or tenants, and current regulatory and financial systems do not fully account for them.

In this research—funded by the Bullitt Foundation, which owns the Bullitt Center—the team calculated values for public benefits, such as energy efficiency, solar energy, walkability, rainwater capture and use, composting toilets, and enhanced carbon storage in the forest from the exclusive use of Forest Stewardship Council (FSC) certified wood.

Although many other public benefits—low-cost housing, pollution reduction, sanitation—are subsidized or required as a price of doing business, investments in sustainability are currently voluntary charitable acts by developers. This places sustainable buildings at a commercial disadvantage to conventional buildings.

“Society provides enormous annual subsidies to residential and commercial real estate, many of which promote sprawl. But society does not acknowledge the benefits that deep green buildings provide to the general public,” said Denis Hayes, CEO of the Bullitt Foundation. “By ignoring the benefits such investments provide to society at large, we penalize the best buildings and reward the worst,” he added.

The value of such public benefits can vary based on factors such as the assumed social cost of carbon emissions and the discount rate applied to benefits received in future years. The table above shows the public values calculated for the life of the Bullitt Center.

In addition to its quantitative research, the team also provided a qualitative assessment of an additional dozen ecosystem services benefits. If these other benefits were accurately quantified, they would add significantly to the documented value of the Bullitt Center.

For example, stormwater mitigation—which is directly related to rainwater capture and reuse—can be extremely expensive for cities to address. Seattle recently spent more than $1 billion to address part of the stormwater challenge it faces. The Bullitt Center has no more stormwater runoff than would be expected from a native Pacific Northwest forest.

The magnitude of this one benefit demonstrates the need to begin incorporating public benefits into regulatory and financial frameworks.

The Bullitt Center study seeks to not only quantify values but also extend the way ecosystem services are valued and modeled in the built environment. Before the current Bullitt Center study, ecosystem service valuations were typically limited to natural ecosystems or large-scale rural areas. This research was grounded in the terminology and science of both ecology and economics, which are often incompatible with the terminology standards. This finding is a result of the differences between post-harvest carbon stores in forests managed to rigorous FSC requirements and those associated with the business-as-usual practices common in Washington.

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and frameworks of architecture, urban and regional planning, engineering, landscape architecture, interior design, and other design professions.

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As we move from reliance on ecosystem services toward reliance on centralized technology solutions, we introduce a greater level of fragility into our urban areas. Every time we make an urban design decision, we make a trade-off between comprehensive, resilient solutions, such as stormwater filtration spread across the landscape, and targeted, often-brittle solutions, such as combined sewer overflow systems.

Biophilic urbanism—urban design that reflects humans’ innate need for nature in and around and on top of our buildings—can make significant contributions to a range of national, state, and local government public policy objectives, including climate change mitigation and adaptation and improvements in public health.

Other potential benefits include reducing the heat island effect, reducing energy consumption for thermal control, enhancing urban biodiversity, improving human well-being and productivity, and improving water cycle management. Effective planning and policy can underpin adoption of biophilic urbanism.

The Bullitt Center produces meaningful direct benefits (or avoided impacts) for over two-thirds of the twenty-two ecosystem services classified by the UN’s *Economics of Ecosystems and Biodiversity* study. This suggests that ecosystem services provide an important complement to the Living Building Challenge, with most of its requirements mapping naturally to one or more ecosystem services.

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To read the full study, visit www.pinchot.org/bullitt

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This year we celebrate four key birthdays in the history of the forestry profession in the United States: Gifford Pinchot (150th); the Yale School of Forestry and Environmental Studies, née The Yale Forest School (115th); the Society of American Foresters (115th); and the US Forest Service (110th). Pinchot was not responsible for the first event (he was just its happy outcome)—but he was present at the creation of the other three, in fact he was their father and midwife.

These latter births were part of a plan. In the early 1890s, as Pinchot turned his considerable energy to becoming the first scientifically trained American forester, he was already conceiving the steps needed to create the forestry profession. Its adherents would need graduate training, which the Yale Forest School, with funding from the Pinchot family, would provide. That program’s graduates would need a professional organization to help certify their careers; enter the SAF. And these recent graduates would need to apply their scientific insights on the ground; many of them became the new agency’s workforce. Call this a closed ecological system.

Yet for all this system’s commitment to the scientific analysis of environmental factors shaping forested landscapes, progenitor Pinchot knew that forestry was not just about trees. It was a social project born with an ineluctable moral code.

Even before he became a forester, Pinchot had well-developed sense of an all-encompassing duty to the commonweal, as evident in his 1889 speech celebrating the US Constitution’s centenary. Speaking in his hometown of Milford, Pennsylvania, the twenty-four-year-old young man declared that he and his audience bore a special obligation as “trustees of the coming world”: not only “do we have a share in the commonwealth, but the commonwealth has a share in us.” The state and nation-state, Pinchot confirmed, had a right to “our service, our thought, and action.”

One year later, while studying forestry in Europe, Pinchot began to make good on that promise. As compelling as was the scientific basis of his chosen profession, Pinchot was more attracted to the political environments in which it was rooted. That attraction was manifest in Governmental Forestry Abroad (1891), a survey of the significance of global forestry. It contains two telling takeaways. That while forestry science was consistent across cultures, its application was not; that’s why republican Switzerland was a much better model for the United States than monarchical Prussia. The second was that government action was essential because forestry’s goal must be to protect and utilize forest resources across time: “a definite, far-seeing plan is necessary for the rational management of any forest,” Pinchot argued, and as such “forest property is safest under the supervision of some imperishable guardian; or, in other words, of the State.”
A forester, in short, must be a virtuous citizen and upright public servant. Theirs was a moral calling. That’s also rigorous standard, as Pinchot’s professional colleagues discovered when they prioritized technical fixes or industrial-friendly solutions to the rapid devastation of America’s forests. “Every forester in the country must face a clear-cut issue,” he confirmed in The Lines are Drawn (1919). “He must act with foresters in the public interest, or with lumberman with a special interest.” Naturally, there was only one acceptable answer, “if he is to call himself a forester in the finest sense of that fine word.”

A decade later, Pinchot reiterated that his peers must return to the fold. “Failure to grapple with the problem of forest destruction threatens the usefulness of our profession,” he and his co-authors wrote in A Letter to Foresters (1930). “We must cleanse our minds of apathy and doubt; and through a rebirth of faith in forestry and a reawakening of all our moral and mental energies” they’d reclaim their birthright of “high ideals and great purposes.”

That Pinchot felt as deeply about this idealism then as he had forty years earlier, and that he worked so diligently and for so long to realize it through the institutions he helped to create, is worth commemorating on this, the sesquicentennial of his birth.

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For 20 years the US Forest Service has watched a revolution in forest management from the sidelines. “Independent third-party certification” originated in the private sector to assure the public that the wide range of forest products they are buying come from responsibly managed forests, whether it is paper from Staples, tissues from Target, or lumber from Home Depot. Since the emergence of forest certification the construction industry has undergone a similar revolution, as green-building standards have been adopted in urban revitalization projects. Public investment has brought increased attention to environmental impacts, energy efficiency, and the materials that are used. Leadership in Energy & Environmental design, or LEED, the green-building standard that is best known and most widely-supported by the environmental community, favors the use of certified wood. Points are awarded for projects that use wood certified to standards set by the Forest Stewardship Council (FSC).

Certification is widely considered the best proof that forest products are from sustainably managed forest lands. Without certification landowners must convince their neighbors, buyers, shareholders, investors, and/or constituents by themselves, on the strength of their own word. Companies and public land management agencies that have achieved certification can point to their certification label when their practices are challenged. For example, Asia Pulp and Paper, one of the largest and most maligned companies logging in the tropics, has sought FSC certification as a way of countering persistent criticism from environmental and social activists.

Restoring public trust is perhaps one of the Forest Service’s most enduring challenges of the last half century. The agency’s management of the National Forests was criticized by the environmental community in the 70’s, by industry in the 90’s, and by local communities all along the way. As a result, Forest Service leaders have been challenged in Congressional hearings, community meetings, and courtrooms over the years. So the potential for rebuilding trust is at least one benefit of certification for the Forest Service. Perhaps now, when the agency is even more pressed to restore vast expanses of forest to avert catastrophic fires, greater trust and acceptance may prove critical. Whether certification can cultivate trust in the agency while improving National Forest management, and doing so without overburdening forest planners and accountants remains to be seen. The question remains, should the National Forests get certified?

Two Decades of Certification

Certification has had an interesting history in the US. FSC was launched by environmental groups in 1994 following the failure to address deforestation at the 1992 Earth Summit in Rio de Janeiro. It quickly gathered steam as progressive companies saw a way to prove that their products complied with a set of standards supported by environmental groups. In 1998, with FSC growing, and certification labels becoming important in the marketplace, the American Forest and Paper Association began to transition its Sustainable Forestry Program into a an independent organization, the Sustainable Forestry Initiative (SFI). Both FSC and SFI have evolved over the years. As the FSC-US office grew from its home in Vermont, to Washington, DC and then its present Minneapolis headquarters, their certificates proliferated. FSC’s label is now on everything from Kleenex to plywood. SFI has also grown rapidly, bringing along most of the acreage from an association representing much of the US forest products industry, and its standards becoming recognized by the Programme for the Endorsement of Forest Certification (PEFC), a global certification system based in Europe.
As of this year there will be almost a billion acres of forestland certified by PEFC and FSC worldwide. For both FSC and SFI, about two-thirds of the land in North America certified under each program is in Canada, much of it federal or “Crown Lands.” In fact, more than two-thirds of the FSC certified acreage globally (~450 million acres) is public, government-managed, or equivalent.¹ So how is it that the US Forest Service—considered by many to be the leading forestry organization in the world—counts not a single certified acre amongst its 193 million acres of National Forest land? Until recently, the Forest Service and FSC were mutually disinclined to seek certification for National Forests. Several environmental groups supporting FSC felt that US National Forests should be an exception. To put it differently, they did not want FSC to sanction the timber harvesting program in the National Forest System.

Are National Forests an Exception?

The National Forests have always been on the frontlines of the conservation movement. First established to protect forest from over-exploitation, then tapped to fuel the war effort and economic growth, and more recently serving as the crucible for ecosystem management, the National Forests have always been surrounded by controversy. The American public has continually debated the balance of uses of National Forests, and laws like the National Forest Management Act have made public consultation a formal part of the decision process. This debate has sometimes simmered in communities near National Forests, dividing them on questions of existence and identity—e.g. are we loggers or birders, or both? At other times it has reached Washington, DC, involving the White House, Congress, and organized national interests. Right now the debate is again edging onto the national stage. With another record-breaking wildfire season upon us and mounting documentation of shifting habitats, how will the Forest Service again rebalance forest management to better address climate change mitigation and adaptation? How can certification help the Forest Service deal with these challenges?

FSC and SFI have differed on whether National Forests should be considered an exception for certification. From the time the question first arose, SFI has been willing to consider certifying National Forests. For FSC, National Forest certification could cause an internal conflict that would be difficult and expensive to navigate, so for many years they upheld a policy essentially prohibiting FSC certification of National Forests. In the meantime other federal forest lands have been certified by FSC, including forests managed by the military and the National Park Service.² The exception has at times been glaring for the Forest Service, whose representatives at international meetings were often questioned why National Forests were not allowed to be FSC certified. So the discussion on whether certification is appropriate for a National Forest is really a debate about FSC certification in particular, and how some FSC supporters regard the Forest Service.

One of the reasons proponents would like to see National Forests certified—expanding the supply of certified wood from well-managed forests—is a Gordian Knot for some environmental groups that have been FSC’s key supporters. To them supporting an increase in the supply of certified wood by encompassing the National Forests perches them on a slippery slope. They have fought for years to shrink the timber program; would certification significantly expand timber harvesting? Meanwhile, there are FSC-certified wood products companies that are disadvantaged because they are surrounded by National Forests whose wood supply cannot be certified.

In some ways this is the same problem some in the environmental community had to navigate when helping to launch FSC: they were cautious about endorsing logging operations, but recognized that wood could come from well-managed forests. It is the same problem now bedeviling both certification systems as they wrestle with, and defend, their standards on allowing some percentage of wood from lands that are not certified—i.e. what should be included in their “chain of custody,” and how much risk is too much to bear?³ A portion of wood products sold with certification labels is not actually from certified forests; some of it may even be coming from US National Forests.⁴

The Forest Service also recognizes that it is an exception, having been repeatedly tested in the battle between sustainable use and chronic abuse of natural resources, and is wary of inviting still another kind of scrutiny or conflict. The growth of certification systems in the US and around the world has been associated with acrimonious competition in the marketplace. FSC, SFI, and many proponents of each standard have a history of fierce debate, a dynamic the already embattled Forest Service has not wanted to further inflame.

A simple solution, at least to the competition between the two certification systems, was pioneered with several state forestry agencies that sought certification from both FSC and SFI. From 1997 until 2003, with support from the US Forest Service and private foundations, the Pinchot Institute worked with a number of states and Indian tribes to
see whether certification was achievable and served their needs. Many became FSC and SFI certified as a result. They cited many reasons for choosing to certify their forests. For example, representatives of the Pennsylvania Department of Conservation and Natural Resources said that despite some additional work and the cost, the holistic review and constituency support certification engendered reduced the staff time devoted to resolving public conflicts. All the agencies had to make adjustments. Often they already knew certain shortcomings existed but certification audits served to draw attention to these issues and secure new resources to address them.

Soon after the pilot certification studies with state agencies and Indian tribes, which brought certification to more than 6 million acres of forest land in the US, the Institute began working with the US Forest Service to consider “test audits” on a few case study National Forests. In 1998, the Forest Service had considered the possibility of certifying the Lakeview Federal Stewardship Unit in Oregon (or at that time the “Sustained Yield Unit”). The Forest Service, FSC, and stakeholders concluded that certification would be premature. This experience gave rise to the FSC Federal Lands Policy mentioned above. It was really a National Forest System policy, and it established three somewhat circular and vaguely defined conditions: a willing landowner, stakeholder consensus about management of the National Forest, and a set of considerations additional to the FSC Standard.

To better understand how certification could affect a National Forest—and whether there were insurmountable obstacles (e.g. some conflict between certification standards and federal policy)—the Institute and the Forest Service compared the management of seven National Forests against FSC and SFI standards. A “paper study” analyzed thousands of pages of planning documents, directives, and guidance. With no insurmountable policy barriers evident, the Institute and the Forest Service then organized the “test audits” on the seven National Forests. Nevertheless, while the study involved all the steps in an actual certification audit, the FSC Federal Lands Policy meant that the study could not lead to actual certification. It even included a mock set of what were called additional considerations that laid out potential new standards unique to the mission and management of National Forests. Developed through broad stakeholder consultation, these considerations were wide-ranging and forward-looking: for example, testing a National Forest on how it is addressing climate change on the forest and the surrounding landscape.

The report focused on five National Forests: two in the Pacific Northwest, one in the Lake States, one in Pennsylvania, and one in Florida. The study yielded important findings, including a demonstration of what would comprise an audit for a National Forest. Auditors both marveled at and complained about the comprehensiveness of the documentation used by the Forest Service—“more forestry paperwork than any other forest in the world.” This flood of paperwork contributes to what critics, and the Forest Service itself, have called “analysis paralysis.” The supposed benefits of the documentation is that the agency is prepared for any contingency, management activity, or policy change. The study found instances in which National Forests fell short in implementing their own plans and priorities or encountered internal resistance when attempting to do so.

Certification is unlikely to significantly affect the planning process defined by the rules and regulations governing the National Forest System. That certification could reduce these requirements is a concern expressed by some environmental groups. The Forest Service would still have to fulfill the requirements of NEPA, ESA, NFMA, and all other applicable laws. Forest Supervisors would still need to assess the impacts of proposed projects, consult the public, and weigh alternatives. They will still need to monitor the status of rare plants and animals and understand how their management decisions affect these resources. And they would still need to seek biological opinions in response to concerns raised by the public. Certification in fact adds independent oversight on whether and how the Forest Service is meeting its own requirements.
Teaching to the Test or Real Improvement?

So what can certification add? Perhaps the best way to evaluate whether certification can serve the public interest is to look at the major problems the Forest Service faces, and consider what certification could do to help. Could FSC and SFI help the Forest Service materially improve its management of a National Forest? Or would certification be akin to an overly burdensome testing mandate, adding to the already heavy workload of National Forest managers without significantly improving the health and management of our forests?

The findings of the study suggest there are two major ways in which certification could be helpful. One is at the field level, where it showed that a holistic review helped draw attention to chronic and systemic problems and secure additional resources to resolve them. A second way addresses trust and relationships with stakeholders. As in the certification pilots with state agencies, the audit findings on National Forests identified barriers to reaching stated goals. This was especially true on the Lakeview Federal Stewardship Unit, where in the 1990’s the Forest Service experimented with a new approach to National Forest management. In reviewing this Unit as part of the study, Scientific Certification Systems found that the Forest Service had either set unrealistic goals or needed to find more money and/or a new way to get work done. For example, the Forest Service consistently fell short of its stated goals for forest restoration and road decommissioning. Based on the results of the test audits on five National Forests in the study, a common element was the inconsistency between what is planned and what is accomplished.

A comprehensive independent review can be an opportunity for adjustment occurring more frequently and with harder deadlines than decadal forest plan revisions. The Forest Service has long done periodic internal reviews usually conducted by the regional line officer and staff, with participation from the Washington office as well. These reviews provide important overall evaluation and guidance but they are by nature internally focused and largely closed to the public. Reviews by a third party that has seen the books, reviewed projects in the field, and interviewed (continued on page 23)

National Forest Certification Study

Completed in 2007, this landmark report is the result of the first independent, comprehensive review of conditions on and management of National Forests. The detailed results of both FSC and SFI field audits, in addition to summary findings, are publicly available on the Pinchot Institute’s website.

http://www.pinchot.org/gp/National_Forest_Certification
Those of us who ascribe to the conservation ethic in natural resource management need to reconsider it in the context of broad environmental, economic, and social terms espoused by Gifford Pinchot. In the modern age this means we must consider sustainable natural resource management in the context of ongoing climate change. Throughout the Rocky Mountain West, there are millions of acres of forests killed by mountain pine beetles, more than four million acres in Colorado alone. There are many variables and many factors at play, but the primary cause behind this is the steadily warmer and drier climate we are experiencing across the West. Milder winters and longer warm periods have actually enabled the bark beetles to have two life cycles in a single year, leading to a population explosion and increased infestation pressure on forests. Prolonged droughts have left the trees severely weakened in their ability to defend themselves against bark beetle attacks.

As Governor, I participated in a series of discussions at the Aspen Institute in which foresters and climatologists from around the world worked to understand what was going on and what we could do about it. It turns out that problems like this are occurring in forests around the globe, and that many of these problems can be tracked back to extraordinary environmental stresses associated with climate change. So, back to the way we think about our conservation ethic—if we care about the future of forests then we have to be part of the broader debate over what we do to address climate change.

Doing something about climate change leads quickly to questions of what to do about energy policy. Per capita CO₂ emissions in the US are among the highest in the world—three times that of other industrialized nations like Germany or the UK, and many times that of most other countries in the world—so the US has a moral responsibility to address this issue. There are a variety of different areas in which there are opportunities to significantly reduce carbon emissions—in our industrial processes, in our agricultural practices, in the transportation sector, and especially in the electricity sector.

At the Center for a New Energy Economy at Colorado State University, we are working with numerous state governments on legislative and regulatory policies to advance the clean energy agenda and make substantial reductions in carbon emissions. State government leadership in this area is important, not just because of the lack of meaningful action by the US Congress, but because of the extent to which the electricity sector is regulated through state policy and not federal policy.

The US is currently on track to reduce carbon emissions by 17 percent by 2020 below 2005 levels, largely because of state-level actions on energy policy—renewable energy standards, energy efficiency standards, and a variety of other actions to advance clean energy technology and applications. More than 220 million Americans live in states that have a renewable energy standard. About 240 million live in states with an energy efficiency
standard. If these states taken together were to constitute a separate country—a Renewable Energy America—it would be the fourth largest nation in the world. So we are actually seeing some substantial progress in energy policy reform to reduce carbon emissions, and much of this has been accomplished at the state level.

Nevertheless, there are areas in which federal policy plays a critically important leadership role, and the Center for a New Energy Economy is working with the Obama Administration and leaders in the US Congress to facilitate reform in federal energy policy. In March 2013, eight weeks into President Obama’s term, I was among a group of 14 people invited to meet at the White House to discuss ideas for advancing a clean energy agenda in the country as a whole. This initial discussion, which included CEOs of major US companies and utilities, led to a series of six more meetings at the White House to consider policy options for advancing energy efficiency, renewable energy, alternative fuels for vehicles, natural gas development, and how to facilitate a shift in the business model for utilities in the 21st century. The White House wanted recommendations for how to move a clean energy agenda alongside the President’s proposed climate policy. The resulting report, Powering Forward: Presidential and Executive Agency Actions to Drive Clean Energy in America (http://pinchot.org/cnee), contains more than 200 recommendations in six separate areas.

As a follow-up to this process, we are currently convening a dialogue around the Clean Power Plan proposed by EPA, the so-called 111(d) rule aimed at reducing greenhouse gas emissions from electric power generation. At the Center for a New Energy Economy, our analysis is primarily focused on states in the American West.

In June 2014, I approached the governors in the 13 Western states and asked them if they would be willing to convene around common issues and interests in implementing such a plan, and that process is now under way. The premise of the Clean Power Plan is that the President wants to reduce electric power sector carbon emissions in the country as a whole to 30 percent below 2005 levels by 2030. Since regulation of electric power utilities in the US has been done largely through state policy, several of the states contend that the EPA is exceeding its legal authority by using federal policy to force major changes in the electric power industry in their states.

In spite of the public opposition of some political leaders around the country, and in spite of lawsuits that have been or will be filed regarding 111(d), there is still a productive dialogue going on behind the scenes. That dialogue has been focused on ways to improve upon the rule when the final draft is published, but it is now shifting to studying models for implementing the rule should it be upheld in courts. The Nicholas Institute at Duke University, the Great Plains Institute in Minneapolis, MN, and the Georgetown Environmental Law Center in DC are all involved in efforts with state decision makers similar to ours at CSU.

When one reads about energy policy in America it’s all about the gridlock and inactivity in Congress, but quite frankly that’s not the full story. This Administration is advancing a clean energy agenda. Important advances in clean energy policy are already taking place in the states, even those states with very conservative governors. There is a perception that this has become a partisan fight, but that is not actually true, at least outside of Washington. Governor Sandoval in Nevada clearly understands the advantages to his state in advancing his clean energy agenda. Governor Snyder in Michigan has proposed an ambitious clean energy standard for his state and Governor Martinez in New Mexico has concluded that it is unlikely that there will be another coal-fired power plant built in her state any time soon. In Colorado we’ve done a lot to push the transition from coal to natural gas in electric power generation.

There are many other bright spots in climate and energy policy. Folks who just pay attention to Congress don’t have to be quite so depressed. There is a lot to be done, but there is a lot of good progress being made. Just as the energy sector is doing, the transportation sector, the industrial manufacturing sector and the agricultural sector are all starting to figure out how to limit their emissions. It is a part of an expanding conversation in the western states and all across America, and a variety of very positive and very constructive things are already happening.

So there is some good news out there. We have a lot of work still to do and certainly the Pinchot Institute should be congratulated for all that it is doing to promote rational public dialogue on policies relating to climate, energy and forests. Gifford Pinchot’s conservation ethic was based on the application of common sense to common problems, for the common good. Working together across the states and across partisan lines, we are finding solutions to today’s big conservation and environmental policy challenges—because we have to—and the Pinchot Institute is certainly helping to accomplish that.
T here is a common tendency to perceive organizations as singular entities, and to presume that the public actions of an organization accurately reflect the values of all its members. This is especially true of organizations as rich in history and tradition as the US Forest Service. In truth, the views and values within an organization can be as varied and diverse as those in broader society, especially when society itself is uncertain or conflicted about whether the path forward needs to be different from the one in which we have been so comfortable for so long.

Jim Furnish came into the US Forest Service in 1965, not long after the publication of Herbert Kaufman’s political science classic The Forest Ranger: A Study in Administrative Behavior (John Hopkins Press 1960). Kaufman’s book detailed the remarkable organizational systems by which the Forest Service, a large and highly-decentralized federal agency with many of its 35,000 employees in remote locations, ensured an extraordinary uniformity of action—and also of values, beliefs, opinions, and motivations. It also was not long after the publication of Rachel Carson’s Silent Spring, which documented the subtle but potent destruction of the natural environment by organizations and institutions that many Americans trusted and even admired.

The US Forest Service was one of those trusted and admired institutions whose actions would soon be questioned and challenged by an increasingly distrustful public. In 1965 the Forest Service was an agency proud of its skills and accomplishments. Over the previous two decades it had responded successfully to the surge in post-war demand for housing by providing abundant supplies of high-quality old-growth timber from the public’s forests. Its people were largely those of Tom Brokaw’s “greatest generation” who, having served in the military in their twenties, were now at the peak of their careers and influence. They eagerly embraced their mission as they understood it, and brought their “can do” enthusiasm to delivering on their promises to an adoring public. Uniquely for a federal agency at the time, the Forest Service logo was featured prominently in a popular prime-time television show about a courageous and principled forest ranger and his equally brave and noble collie. How much more of a public affirmation could any government agency want?

So much greater then was the shock when in the late 1960s ordinary citizens accused this proud conservation organization of willfully damaging the environment to serve the needs of special interests. Clearcutting was the central focus of controversy, but the public challenges ranged broadly from destroying wildlife and fish habitat, to driving out endangered species, to poisoning public water supplies with pesticides. In a nation with rapidly expanding suburban development and a rising concern about protecting the remaining wild places, the Forest Service was accused of punching miles of new roads into remote regions not because the timber there was of any
great value, but simply to disqualify these areas from future consideration for wilderness designation.

Furnish’s memoir spans a pivotal era in the history of the Forest Service, from the first public skirmishes over clearcutting in the 60s, through new federal legislation and court decisions that forced changes in the National Forests, to the adoption of ecosystem management policies that have served as the agency’s de facto mission ever since. Throughout all of this, Furnish examines the evolution in his own thinking in response to changing social values about the environment. As supervisor of one of the most productive timber-producing National Forests in the country, he responded to public concerns about past impacts on salmon habitat by steering a different course meant to sustain a wider range of resources and values. As a senior official in the agency’s Washington headquarters, he continued to work to reinforce the new value system that was gradually taking the place of one that had guided the Forest Service for more than half a century.

This book reads in many ways like a love story. It starts with starry-eyed romance, evolves through the inevitable joys and disappointments of any committed relationship, and ends with a mature appreciation for a lifelong partner striving to do what is good and right in rapidly changing world. Political scientist John W. Gardner once wrote, “Pity the leader caught between unloving critics and uncritical lovers.” Observing that this seemed to be the Forest Service’s predicament over most of his 40-year career, Furnish views himself instead as a “critical lover” who was as committed to the agency as any of his colleagues but saw perhaps more clearly the changes that were still needed for the Forest Service to live up to its full potential as a world-class exemplar of 21st century sustainable forest management.

Al Sample is president of the Pinchot Institute and co-author of Forest Conservation and Management in the Anthropocene, forthcoming from the University Press of Colorado.
Ben Hayes Joins Western Regional Office Staff

Ben Hayes is a fifth generation Oregonian with a background in forestry and humanities. Before returning to graduate school, he worked as the Program Manager for Fishtrap, a non-profit that promotes clear thinking and good writing in and about the West. At Fishtrap, Ben oversaw 13 programs including a weeklong summer workshop series, residency programs throughout eastern Oregon, and a regional “Big Read” program. Ben has also worked as a river guide, arborist, and events manager. He received a Master of Forestry degree from Yale University and a BA from Whitman College. His academic work has focused on western land conservation, including state forest land management in Oregon, institutional investment in ranches, forest land, and water, and environmental market dynamics. Other interests include fly fishing, boat building, and backcountry skiing. When not at work, on a river, or in the mountains, Ben helps to run Hyla Woods, his family’s forest business in Oregon’s Coast Range.

Stephanie Dalke Completes Environmental Leadership Program

Stephanie Pendergrass Dalke, Project Director of the Institute’s Common Waters program, is now a Senior Fellow in the Environmental Leadership Program (ELP). She was among the first class of fellows to participate in the leadership development program tailored for the Delaware River Watershed Network, which was launched with the support of the William Penn Foundation as part of its Delaware River Watershed Initiative. In a series of three retreats in Wallingford, PA, the group covered topics such as building community, diversity, and learning to lead across differences; the learning organization model and systems thinking; developing partnerships and collaborations; and strengths-based leadership. Membership in the ELP Senior Fellows Network is an ongoing commitment to leadership development and mentoring in a dynamic network of more than 700 of the country’s top emerging environmental and social change leaders. ELP is accepting nominations for the next class of Delaware River Watershed Network fellows to be trained in 2016. More information is available at elpnet.org.

America’s Great National Forests, Wildernesses, and Grasslands

Pinchot Institute University Fellow Char Miller has recently completed a new illustrated celebration of our greatest National Forests, from Alaska to Florida. For more than a century, America’s National Forests have proved an environmental gift and cultural treasure, our spectacular backyard. Under the management of the US Forest Service, this system of public lands encompasses 193 million acres of mountains, prairies, rivers, and canyons—much of it undiscovered, but accessible for hiking, kayaking, fishing, and winter sports. Officially published with the US Forest Service, this book features the thirty most notable National Forests—while also celebrating more than one hundred different national forests in forty-four states—from the White Mountains of New Hampshire to the Olympics of Washington. Unlike the national parks, Americans can use these lands for all manner of recreation, truly earning these tremendous resources the moniker of “America’s backyard.” Featuring photography by Tim Palmer and a foreword from Bill McKibben, this book is a treasure for all readers who use and cherish these lands. Available for pre-order now: http://bit.ly/AGNFWG
In Memoriam: Jackson F. Eno, 1948–2015

Jackson F. Eno was a respected and admired leader on the Pinchot Institute’s Board of Directors for more than a quarter-century. Earlier this year, Jack was awarded the Pinchot Medallion, one of the most cherished prizes in the field of natural resources and environmental conservation, in recognition of his lifetime of service to the Institute and to the national public interest in forest conservation. As a native son and devoted citizen of Simsbury, Connecticut, Jack was proud to carry forward the legacy of another native son — Gifford Pinchot was born to Mary Eno Pinchot in Simsbury 150 years ago this year. Jack was an institution builder, whose vision and devotion helped make the Pinchot Institute into what it is today, a respected nonpartisan science and policy institute dedicated to conserving forests across the nation and around the world. Jack was a guide and inspiration to many of us at the Institute. We will treasure his memory and achievements, and continue the legacies about which he cared so deeply.
greater sense of interdependency and mutual reinforcement than ever before. The old boundaries between the urban built environment and the surrounding natural landscape on which it depends are rapidly disappearing. Resilient, sustainable, biophilic cities are creating opportunities for daily interactions with nature that sustain the human spirit and that lead people to better understand, value, protect, and conserve the forests and other natural ecosystems around them.

— Al Sample

References


For Further Reading


Gifford Pinchot to be inducted into World Forestry Center Leadership Hall

The World Forestry Center and the Pinchot Institute for Conservation are pleased to announce that the World Forestry Center will induct Gifford Pinchot into its Leadership Hall. Pinchot’s ethic of “the greatest good, for the greatest number, in the long run” still resonates today, the 150th anniversary of his birth.

Gifford Pinchot’s Leadership Hall Induction will support the Research Fellows Program of the Pinchot Institute as well as the forest education program of the World Forestry Center. The Pinchot Institute and the World Forestry Center partner to advance sustainable forestry research and education.

The Leadership Hall of the World Forestry Center was established in 1971 to honor those who have made significant and meaningful contributions to the advancement of forestry. The Hall celebrates the history of the world’s forests and the men and women who have made significant and meaningful contributions to the advancement of the forestry sector in business, government, or education.

More information about this opportunity to recognize Gifford Pinchot’s groundbreaking work as America’s First Forester will be available soon at pinchot.org and worldforestry.org.

http://www.pinchot.org/leadershiphall
a diversity of external stakeholders can offer important new insights and provide the public transparency that is essential for rebuilding trust.

So perhaps the most important potential benefit of certification is the way in which it engages external stakeholders and speaks directly to the public. To this end, certification may be more beneficial on some National Forests than others. Some forests may not be interested or ready, while others may be eager or looking for new ways to accomplish their mission. Certification could help reset the relationship between the Forest Service and its critics. Like an independent financial audit, certification is intended to evaluate any organization’s performance relative to its stated policies and objectives, in the broader context of widely accepted standards of practice. Certification does not establish goals—which are a matter for the public to decide through existing policymaking and planning processes—but it can help promote the understanding and public trust necessary to achieve them.

Will Price is Director of Conservation Programs at the Pinchot Institute in Princeton, New Jersey.

Notes

2 Marsh-Billings Rockefeller National Historic Site is a demonstration and teaching forest in Vermont encompassing about 500 acres, and was certified through a pilot project coordinated by the Pinchot Institute.
3 This is another discussion altogether, along with the related question of how much wood from National Forests is already sourced for use under FSC and SFI labels.
4 The SFI Fiber Sourcing label most prevalent in the marketplace can contain more material from forests that have not been certified (100% is allowable). FSC’s “Mixed Sources” label requires an average of at least 70% from certified forests.
Research Fellow Scholarship Fund

RESEARCH FELLOWSHIPS: LAUNCHING CAREERS IN ENVIRONMENTAL CONSERVATION

Over the past 20 years, the Pinchot Institute has awarded one-year research fellowships to 23 young conservation professionals, often immediately after completion of their graduate studies in forest resource and environmental conservation. These fellowships provide early-career opportunities to strengthen recent graduates’ professional experience, demonstrate their expertise, and benefit from the mentorship of senior professionals. Research Fellows are paired with senior members of the Pinchot Institute staff, and play an integral role in carrying out conservation programs and projects. Some Research Fellows have transitioned into permanent positions on the Institute’s research staff, while others have gone on to a wide range of leadership positions throughout the conservation community—in government, business, nonprofits and universities. These fellowships help launch conservation careers while bringing fresh ideas, insights, and energy to the Institute.

Your support makes it possible for the Institute to continue offering these important career development and mentoring opportunities. Please consider making a tax-deductible gift to the Pinchot Institute’s Research Fellows Scholarship Fund—return the enclosed envelope or donate today at pinchot.org/support. For more information about the Institute’s research fellows or for planned giving information contact Alex Andrus: aandrus@pinchot.org or 202.797.6582.

pinchot.org/support