Forest Stewards Guild
putting the forest first

Forest Stewards Guild
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2016 National Meeting –

Bringing Together New Ideas and New Partners

The 2016 national meeting of the Forest Stewards Guild and our partners at The Nature Conservancy and Society of American Foresters drew natural resource managers, researchers, and students from around the country to Duluth, Minnesota in July. The Guild's national meeting helped empower practitioners with restoration tools rooted in forest science, conservation, and collaboration. The three-day program created an exceptional space to learn and to adapt a land ethics philosophy.

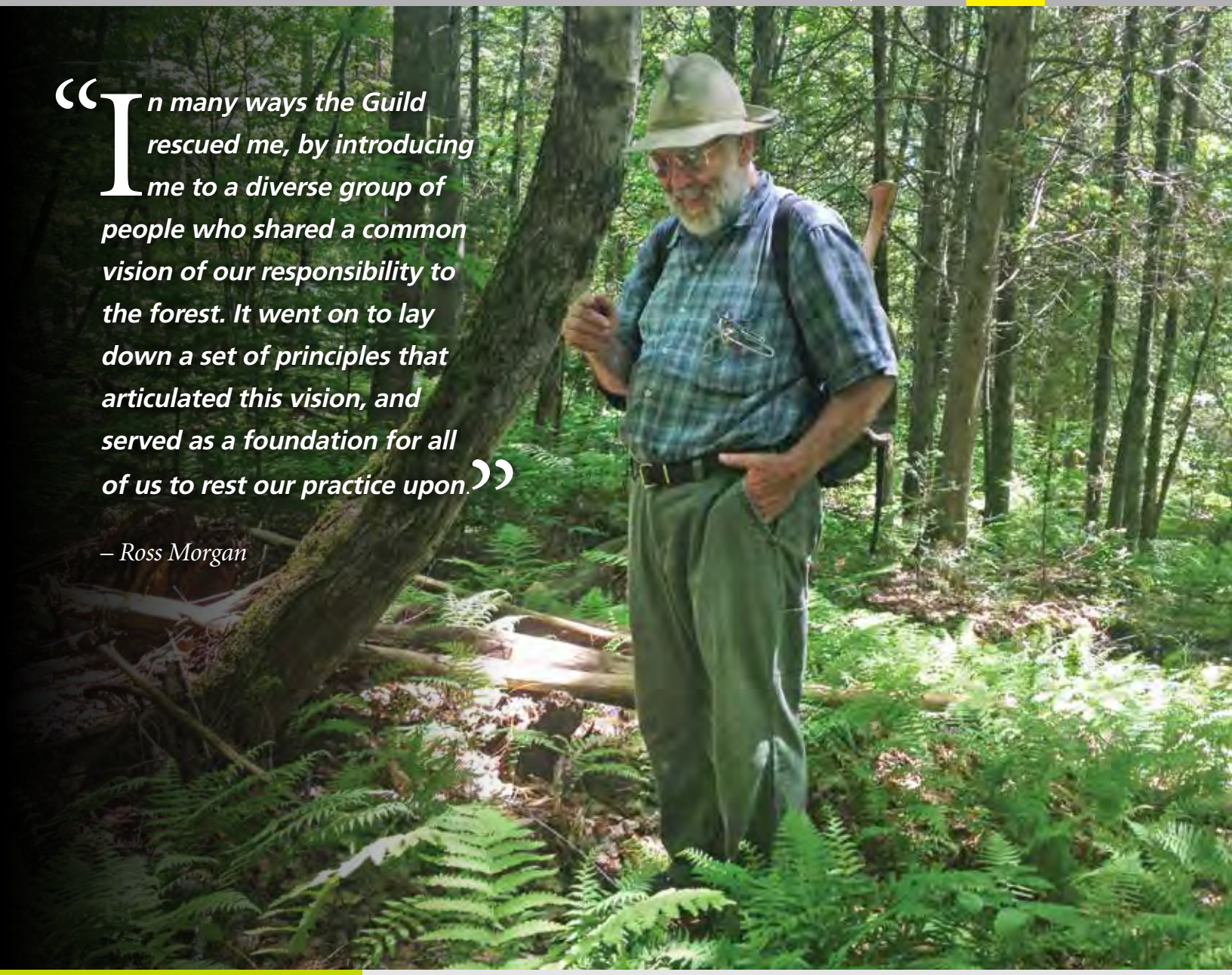
Robert Hrubes (Scientific Certification Systems - CA), Steve Lindeman (The Nature Conservancy - VA), and Amber Ellering (MN Dept. of Natural Resources) in discussion during a workshop at the Cloquet Forestry Center, Minnesota

"Be prepared for unconventional ideas from people with dirty boots. This is a group of people who spend a lot of time in the woods thinking while they work."

Aitkin County Minnesota Forest Administrator Mark Jacobs (kneeling far left) led participants on a tour of the Cornish Hardwood Management Area of Aitkin County, a Guild Model Forest.

the Forest Steward

Fall 2016 Volume 1, Number 2



"In many ways the Guild rescued me, by introducing me to a diverse group of people who shared a common vision of our responsibility to the forest. It went on to lay down a set of principles that articulated this vision, and served as a foundation for all of us to rest our practice upon."

– Ross Morgan

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INSIDE

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It is All in the Marking…

By Rick Morrill

The fall colors are at their peak in mid-October in Northern Vermont. Amid the brilliant golden, orange, and red leaves of the northern forest, Ross Morgan is marking trees. As a forester for over 45 years, Ross has spent countless hours in the woods watching, assessing, and enjoying the forests and landscapes that he has helped steward. During his career he has marked tens of thousands of trees, over many thousands of acres of land. Foresters in the region often mark with paint the trees to be harvested during silvicultural treatments. For Ross, "The marking is everything… for it is through the careful selection of which trees to take from the forest, and which to leave, that the forester exercises one of the most important stewardship tools."

Ross grew up exploring the woods and landscape of his home in central New York state, but it was his time at Paul Smiths College, amid the Adirondack Mountains, that shaped him the most. He remembers, with a mixture of fondness and awe, two of his instructors in silviculture, mensuration, surveying, and forest management, Gould J. Hoyt and George Peroni. "They forged us into skilled practitioners, but perhaps most importantly, they instilled a sense of responsibility to our work and to the forest." After serving in Vietnam, Ross completed additional undergraduate work at SUNY ESF, and went on to receive his master's degree from the University of Vermont. Ross is a gifted teacher who has served as an instructor and mentor to countless students of the forest. During his career, he has taught forestry courses at both high school and college levels, engaging and influencing hundreds of young people. In the 1980s he developed a "short course" in forestry for landowners that ran for many years, and as a consulting forester, he is constantly providing guidance and knowledge to his clients. Ross is also a lifelong student, always asking questions, always learning, whether from research literature, colleagues, or his own observations. In addition, he studied and found inspiration in the writings of European foresters from the 19th and 20th centuries, who communicated a sophisticated knowledge of ecology, silviculture, and the meaning of stewardship,

specifically Josef Kostler. His practice is rooted in the knowledge and deep appreciation of conservation history through the writings of Henry David Thoreau, Aldo Leopold, and Gifford Pinchot.

As a founding member of the Forest Stewards Guild, Ross's input and wisdom are regularly sought by the membership at both regional and national levels. And the Guild has also had a profound influence on him. The formation of the organization occurred during a time when Ross was deeply frustrated with the status quo in forestry. Common forestry practice seemed compromised, where liquidation was often an acceptable route toward maximizing short-term profit, and when sound silviculture appeared to be "optional". This compromise ran counter to what he was taught and strove to practice.

"In many ways the Guild rescued me, by introducing me to a diverse group of people who shared a common vision of responsibility to the forest. It went on to lay down a set of principles that articulated this vision, and served as a foundation for us all to rest our practice upon." For Ross, the careful application of silviculture in the hands of a humble practitioner, schooled in science and ethics, represents the most refined implementation of the art and science of forest management. While he has almost five decades under his belt, he isn't ready to retire yet. With the recent addition of his daughter and son-in-law to his consulting business, he can see how his work in the northern forest will continue for many more decades.

For Ross Morgan, forestry has always combined teaching, learning, and practice.

From *Silviculture*, by Josef Kostler (1947), translated from the original German transcripts:

"The most important part of silvicultural work is the marking of the trees intended for felling."

Fifty years ago, Karl Gayer wrote in the fourth edition of his silvicultural textbook:
"A reversion to stand forms, which are more in harmony with nature, is essential for the future of forestry, and many good enterprises have already set foot on this return journey."

"The marking of the trees to be exploited is undoubtedly the most important task of all, the true central function of the professional forester."

Photo by David Hobson

The Conceptual and Ethical Foundation of Ecological Forestry

By Alaric Sample and Zander Evans

Editor's Note: *A debate has emerged within the academic community around the suitability of ecological forestry as a professional and ethical foundation for forest management. As an organization that has promoted and contributed to the development of ecological forestry principles since our inception, the Guild and our members have a more than passing interest in this issue. We'll be contributing to this discussion here, and in other forums in the months to come.*

A recent article in the *Journal of Forestry* (Batavia and Nelson 2016) asserts that ecological forestry has pervasive conceptual and ethical ambiguities which preclude a clear understanding of what ecological forestry is or aspires to achieve. This may come as a surprise to Forest Stewards Guild members who have been involved in developing and applying ecological forestry principles for more than 20 years. However, the fact that the ethical and conceptual foundations of ecological forestry are not clear to some in the forestry community suggests we should expand the conversation.

Far from being an "ephemeral idea in forest management" as Batavia and Nelson suggest, the principles underlying ecological forestry—using an understanding of natural processes of disturbance and succession to meet economic objectives of forest management without compromising the ecological values of forests—are the product of simultaneous evolutions of ecological science and conservation ethics over the past century. The early development of forest science and practice was strongly influenced by deterministic ecological models of succession in response to disturbance (Smith 1962, Packham et al. 1992). This influence continued to guide the practice of silviculture and forest management into the late 20th century, well after ecological science had transitioned to less deterministic ecosystem-based models (Skillen 2015). Ecosystem ecology acknowledged the complexity and local variability of interactions among a large number of biotic and abiotic factors, and the difficulty of accurately predicting the outcome of natural disturbances and human interventions.

More recently, ecosystem ecology principles that emphasize a higher level of complexity and uncertainty have become more influential in forest science. Ecological forestry accepts that the results of human management interventions in forest ecosystems are far more difficult to predict than was generally assumed for much of the 20th century (National Research Council 1990). Scholarly work on ecological forestry has helped establish the importance of emulating natural patterns and processes, maintaining legacies when stands regenerate, and encouraging the development of complex forests (Seymour and Hunter 1999, Franklin et al. 2007, Mitchell et al. 2009, Hanson et al. 2012).

Societal values regarding forests have also evolved, as well, as principles of conservation ethics have been incorporated into forest policies and professional ethics. Our growing appreciation for the interconnectedness of all species, including our own, has in turn informed the emerging philosophy of conservation ethics and its integration into the body of law that reflects the values, ideals, and aspirations of society. Aldo Leopold's simple statement of the land ethic has provided one of the most durable ethical underpinnings for practicing foresters. "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise" (Leopold 1948).

The Guild's commitment to ecological forestry is based on Leopold's land ethic and serves as its central tenet: *the forester's first duty is to the forest and the future.* This principle continues to be one of the Guild's distinguishing features, and forms the basis for much of the organization's work in public education, member support, and policy advocacy. Ecological forestry is a way for forest stewards to achieve personal and societal goals that reflect the conservation ethic articulated philosophically by Leopold and others, and subsequently institutionalized in law, policy, and professional ethics in the practice of forestry.

If we share a definition of forestry that includes maintaining and providing for multiple values and benefits over time, then the intertwining of ethical advance and normative development with the evolving concepts of ecosystem ecology is not a limitation on forestry practice. Rather, it is a recognition that managing to sustain the resilience of forest ecosystems can be a practical means of achieving environmental, economic, and societal goals in a manner that is ethically as well as scientifically sound. Ecological forestry provides a lens through which foresters (and our public) can demonstrate an ethical commitment to maintaining the diversity and complexity of forest ecosystems while providing for human needs.

Photos by David Hobson

Even with the on-the-ground experience of forest stewards practicing ecological forestry and scientists adding to its intellectual rigor, it is valuable to reflect on its conceptual and ethical foundations. It is important that ecological forestry not become a buzzword like 'natural' or 'green'. In general, more explicit instruction on the role of ethical considerations in forest management practice would be a valuable contribution to academic and professional education. Recent surveys of forestry employers, educators, and recent graduates of forestry degree programs at universities across the US consistently identify ethics and the integration of ethics in forest management decision making as an essential core competency (Sample et al 2015, Bullard et al. 2104). Accelerating climate change and other novel stressors such as alien invasive species create new challenges for practitioners of ecological forestry. For example, ideas such as "assisted migration"—planting species adapted to the climate conditions that are expected at that location in future decades—present a challenge for managers striving to emulate natural processes.

Preserving the integrity, stability, and beauty of the biotic community is an increasingly common goal for forest owners, public or private, that foresters are being challenged to meet. The principles of ecological forestry provide an essential set of tools for meeting that goal.

*V. **Alaric Sample** is President Emeritus and Senior Fellow, Pinchot Institute for Conservation, Washington, DC, and a founding board member and former chair of the Forest Stewards Guild.*

***Zander Evans** is Research Director, Forest Stewards Guild, Santa Fe, NM, and a member of the USDA Forest Research Advisory Council.*

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Indianapolis Skyline

Inwood Hill Park, at the southern foot of the Henry Hudson Bridge in northern Manhattan. The New Jersey Pallisades are in the background.

Putting the Urban Forest First

The founding members of the Forest Stewards Guild were seeking to transform what was then considered traditional forestry into something less traditional. Our principles reflect that goal, with an emphasis on ecological forestry practices that rely on or emulate natural processes, and forests managed for both human needs and intrinsic values. Our lens as an organization has, until recently, largely focused on rural forests.

But land and people change. Throughout much of the United States the physical boundaries between urban and rural forests have softened considerably, and in some regions they are essentially being eliminated. Perhaps driven by the trend of urbanizing (or ex-urbanizing) forests, the professional boundaries between traditional forestry and urban forestry practice are also beginning to meld. The fact that our work, and many Guild members' work, increasingly includes forests within our communities is a clear reflection of this trend.

Principles in Practice

So why should the Guild's principle of *putting the Forest First* matter as much in Center City Philadelphia as it does in the Alleghany Mountains?

Some urban forest statistics:

- More than 80 percent of the U.S. population now lives in urban areas and that number is growing.
- Based on photo-interpretation, tree cover in urban areas of the conterminous United States is estimated at 35.1 percent, the equivalent of 20.9 million acres of fully stocked forest.
- As urban areas expand, urban forests become increasingly critical to sustaining environmental quality and human well-being.
- Urban tree canopy in the United States is declining at an average rate of about 0.2 percent per year – an annual loss of 4 million trees. In many major cities, the rate of decline is significantly greater.
- Forested landscapes are increasingly understood as a continuum that includes undeveloped forests and natural areas, partially developed and partially forested areas in a Wildland Urban Interface, and urban communities with trees.

Urban forests face many stresses and threats – some common to all forests and some unique to urban areas. Stressors unique to urban settings include harsh urban conditions like deficient soil, unnatural successional patterns, contaminated sites, salt in icy cities, heat, drought, flashy streams, and unnatural hydrological regimes. While invasive plants can wreak havoc anywhere, it seems that cityscapes are often characterized by a veritable urban jungle of trees, shrubs, exotic grasses and other herbaceous plants, and vines – especially vines.

Urban forestry practitioners – many of whom are blending practices of both traditional and urban forestry – are engaged in initiatives across the country to monitor, protect, and grow the urban forest in all its forms. Street trees are an obvious and essential element. But the full urban forest encompasses parks, public gardens, designed landscapes, river walks, greenways, wetlands, natural areas, college and commercial campuses, even working trees on industrial brownfields.

The Guild and our members can bring a focus on conserving ecological complexity and diversity within urban and ex-urban areas, as well as the practical skills of wood utilization and handling – an increasing priority for communities throughout the country seeking to reduce the expense of wood waste and stimulating local economic development. Trees are after all one of the most abundant and available natural resources in most cities.

From Stressed to Sustainable

One person making a difference in the space between urban and rural, and between traditional and emerging disciplines, is Guild member Michael Leff, principal at Ecological Connections, in Williamsburg, MA.

As a former member of the Ecosystem Services Team within the Davey Institute, a division of the Davey Tree Expert Company, located at the USDA Forest Service Philadelphia Field Station, Michael led the development of a comprehensive guide for communities on managing urban forests for sustainable outcomes. These standards are now available as a compendium entitled, "The Sustainable Urban Forest: A Step-by-Step Approach."

The guide presents a scalable approach that can be adapted by any community seeking to optimize the values and benefits of forests, including counties, cities, park districts, conservation districts, universities or corporate campuses, or homeowner associations.

Forest Stewards Guild partnered with University of Wisconsin Extension Forester John DuPlissus to provide log-grading training to City of Madison forestry crews in 2014 & 2015.

Guild member Michael Leff demonstrates effective community engagement, with neighborhood youth during a tree planting in Philadelphia.

The guide posits that sustainability in an urban forest context "encompasses everything needed to assure that the entire forest system achieves and maintains a healthy overall extent and structure sufficient to provide the desired benefits, or ecosystem services, over time."

To meet goals like that, urban forest managers need to stay nimble and prepared to modify prescribed strategies to suit needs and changing circumstances. For urban forest managers, even the best-laid plans must be continually reviewed, reassessed, and revised as needed. Those principles are just as applicable in cities as they are in rural areas, and forest practitioners who have learned to work adaptively for multiple values will find their skills well suited to the needs in the urban forests.

To receive a copy of the Sustainable Urban Forest Guide, visit itreetools.org or contact Michael Leff at: MLeff@ecologicalconnections.com for a copy.

A dead American elm on one of the estimated 90,000 vacant lots in the City of Detroit decorated as part of an informal community artwork known as the Heidelburg Project. With its loose bark and decaying upper limbs, this snag also provides habitat for birds and urban wildlife.

Urban Forest Benefits

Many urban dwellers can list the downside of trees, ranging from lifted sidewalks to storm damage. However, there is often less awareness and appreciation of the many benefits of trees. Those benefits are varied and substantial, and impact all three areas of the so-called "triple bottom-line" – economic, environmental, and social.

Economic benefits

- Save energy and cut costs for summer cooling (shade) and winter heating (windbreak).
- Increase property values, benefiting homeowners and increasing local tax revenues.
- Boost commercial district activity.
- Support green industry jobs.
- Reduce costs to taxpayers for traditional "grey" infrastructure.
- Supply wood products – ranging from recycled material such as mulch, to hardwood furniture, and fuel for energy production.

Environmental benefits

- Improve air quality by absorbing and filtering pollutants.
- Reduce greenhouse gases by direct carbon sequestration and through avoided carbon emissions from reduced energy use.
- Save energy by directly shading buildings and through the cooling effects of transpiration.
- Mitigate overall air temperature extremes and reduce urban "heat island" effect.
- Help manage stormwater, reduce flooding, and improve water quality.
- Support wildlife populations and overall biodiversity.
- Reduce ultraviolet radiation levels.

Social benefits

- Promote public health and well-being.
- Encourage physical activity by creating attractive, shaded outdoor spaces.
- Discourage crime and create safe places to gather.
- Strengthen community engagement and revitalize neighborhoods.
- Promote social and environmental justice for neglected communities.
- Supply healthy edibles such as fruits and nuts.
- Provide solace, spiritual sustenance, and a sense of place.