Intersection 53

The Vernacular Landscape of
Cedar Creek Ecosystem Science Reserve
East Bethel, Minnesota

New Work by Frank Meuschke
Exhibition Statement

The photographs in this exhibit consider two subjects. The first is the scientific research at Cedar Creek Ecosystem Science Reserve. The second is subtler: it is the idea of landscape -what we can know about our relationship to the natural world via the medium of landscape. Please note that each photograph has a corresponding catalog image with title and text that offers a brief synopsis of the science seen in the photograph. The texts are intended to supplement your experience of these landscape photographs.

This work was created throughout 2018, while I was the artist in residence within Cedar Creek Ecosystem Science Reserve. It is one of the most significant, if little known, sites dedicated to ecology science in the world. It was here, in central Minnesota, at the intersection of North America’s three major biomes (Eastern Deciduous Forest, Northern Boreal Forest, and Prairie), that the foundation of modern ecology was conceived in the 1940s. Since then, decades of ongoing research has deepened our understanding of complex ecosystems and their response to anthropogenic stressors such as rising CO2, heat, nitrogen and drought.

While walking the unpopulated, yet fully human forests and fields of Cedar Creek, the natural-unnatural quality of the place becomes increasingly clear. The reserve’s relative isolation, the unique biogeography of the Anoka Sand Plain on which it resides, and a history of scientific experimentation has created a form of vernacular landscape—a set of visible features that characterize this particular place as distinct from other places. My photographs depict several human interventions into natural environments and reveal a sometimes-alien landscape of scientific apparatus among it’s varied ecological niches. A contraption of PVC pipe and corrugated plastic or collections of buckets in a recently scorched oak savanna suggest the occult; their purposes as unknowable to the uninitiated as ecological dimensions are invisible.

Thinking about what is visible, yet could hardly be grasped, led me toward the hauntological aspect of our culture’s relationship with nature. In a nutshell, hauntology describes the perception of an apparition or ghost without a former self. Picturing the land in its “wilderness” state or at a time of ecological harmony would exemplify what cultural geographer James Thurgill termed a “spectral ecology.” Our culture is haunted by the idea of a past ecological balance, to the extent that the land we inhabit, even its image, provokes an uneasy consciousness of an unknowable, increasingly unstable ecological future.

The anxiety caused by this haunting can prompt us to look away -toward pastoral beauty or wilderness. It can also lead us to focus on loss, as in the dramatic images of calving glaciers, or sublime destruction seen in pictures of large-scale environmental pollution. The peril made possible by global climate changes and ecological collapse is real, yet the abstract and sublime images born of the shocking scale of anthropogenic disruption offer little more than catharsis for our cultural anxiety.

Although it may provide clues to past or future ecologies, the science at Cedar Creek considers the ecological present. In doing this work, the people and the science are a part of the ecology as much as they seek to understand it. That we are part of nature even as we do something to nature is the essence of our relationship with the natural world. That Cedar Creek exemplifies this quality is what led me to want to create new work among its people, apparatus, fields and savannas. In questioning what landscape is or can be, I was able to bear witness to humanity in nature and reconsider our place within landscape art.

To what does the title Intersection 53 refer? Cedar Creek Ecosystem Science Reserve has few proper names to identify specific locations. Open fields are numbered and sometimes lettered to identify them on maps and documents. Major roadway intersections are numbered. I can only infer that this system was designed in keeping with the impersonal categorizations of science. Despite this, Intersection 53 took on personal characteristics as it was central the location from which many of my favorite, sometimes magical, spaces within Cedar Creek could be accessed.
Raymond Lindeman began collecting data at Cedar Bog Lake in 1936 and received his Ph.D. in zoology from the University of Minnesota in 1941. His thesis, “Trophic-Dynamic Aspect of Ecology,” provided revolutionary insight into how energy and nutrients move through ecosystems and is one ecology's foundational papers.

Each spring Cedar Creek ESR conducts a series of prescribed burns within its boundaries as part of its long-term research and land management programs. Controlled burns on 900 acres of oak savanna, prairies, and research units are managed by staff under the supervision of trained personnel with many years of prescribed burning experience.

Of the six BioCON 200 foot rings, three are exposed to ambient CO2 and three are exposed to elevated CO2 using free-air CO2 enrichment. Liquid carbon dioxide will not remain liquid outside of very high pressure storage tanks. It converts to a gas as it is pumped to the perforated, striped stacks seen in other photographs.

The artist in residence at Cedar Creek often stays overnight in the Icon House - a University of Minnesota School of Architecture Solar Decathlon project home. This view is from the east-facing porch. This prairie is a work-in-progress on the sandy soils of the Anoka Sand Plain. To the east are forests of oak and aspen, wetlands, Big Bio, and the open water of Fish Lake.
Experiment 141: Biodiversity CO2 and Nitrogen (BioCON), Winter
22.5 x 30 inches
Archival Pigment Print
2019

BioCON is one of only three studies in the world capable of providing long-term evidence on joint effects of CO2 and nitrogen on biodiversity and ecosystem function, and the only experiment involving either CO2 or nitrogen and biodiversity.

Undefined Research Apparatus, Upland Woodlands
22.5 x 30 inches
Archival Pigment Print
2019

There are hundreds of experiments ranging across Cedar Creek’s nine square miles, many of which are not cataloged. Many can be seen in the woodlands while walking the sand roads.

Water Manipulation, Biodiversity and Climate (BAC) Experiment
22.5 x 30 inches
Archival Pigment Print
2019

The BAC (biodiversity and climate) experiment examines the interactive effects of global warming and biodiversity on prairie ecosystems. The experiment consists of 38 plots containing varying levels of biodiversity (1, 4, 16, or 32 prairie species).

Water Manipulation, International Drought Experiment: Cedar Creek Savanna
22.5 x 30 inches
Archival Pigment Print
2019

The International Drought Experiment is a highly coordinated experimental worldwide network of drought experiments aimed at assessing differential sensitivity of terrestrial ecosystems to extreme drought.
**After Prescribed Burn, Old-Field Chronosequence Experiment**
22.5 x 30 inches
Archival Pigment Print
2019

Begun in 1988, this research studies the change in plant growth and species distribution during succession. These fields were previously cultivated, then removed from agriculture at various times in the past. Left undisturbed, plants develop from seeds within the soil or brought into the fields by wind or animals.

**Water Manipulation and Heat Treatment, Biodiversity and Climate (BAC) Experiment**
22.5 x 30 inches
Archival Pigment Print
2019

The BAC (biodiversity and climate) experiment examines the interactive effects of global warming and biodiversity on prairie ecosystems. The experiment consists of 38 plots containing varying levels of biodiversity (1, 4, 16, or 32 prairie species).

**Experiment 001: Root Barriers After a Prescribed Burn, Spring**
22.5 x 30 inches
Archival Pigment Print
2019

Established in 1982 by David Tilman to examine the long-term effects of low-level nitrogen addition on undisturbed, nitrogen-limited grassland ecosystems. Plots were sampled annually for above-ground biomass and discovered that chronic, low-level nitrogen introduction reduced species diversity by 17 percent.

**DC Randle Setting Up Transects**
22.5 x 30 inches
Archival Pigment Print
2019

Cedar Creek ESR educational outreach serves thousands of school children each school year and in summer youth camps. In this photograph, DC Randle, CC educational staff, is setting up transects for children to explore ecosystem components and take measurements along the upland prairie-wetland ecotone.
**Effect of Burn Patterns on Vegetation in Upland Woodlands**

22.5 x 30 inches  
Archival Pigment Print  
2019

An ongoing prescribed burning program begun in 1964 at Cedar Creek examines the effects of long-term prescribed burning treatments on vegetation structure and composition, productivity, and nutrient cycling in upland oak savanna and woodland vegetation.

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**Nest Inspection, Red-Headed Woodpecker Recovery Project**

22.5 x 30 inches  
Archival Pigment Print  
2019

Megan Massa, research technician for the Red-Headed Woodpecker Recovery Project looks in on fledglings. Since 2008, the project has conducted research among Cedar Creek's oak savannas. Red-headed woodpeckers are in decline throughout Minnesota, but seem to be stable at Cedar Creek.

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**BioCON experiment, which addresses the direct and interactive effects on grassland ecosystems of elevated CO2, added nitrogen, and varying plant diversity, including shifts in both richness and composition. In 1998 researchers added artificial warming and rainfall limits to the experiment.**

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**Experiment 133: Prescribed Burn, Oak Savanna, Spring**

22.5 x 30 inches  
Archival Pigment Print  
2019

Prescribed burning programs have the ultimate objectives of restoring and maintaining the historically important savanna and open woodland vegetation, and providing information about the effects of different burning patterns on vegetation and composition. This study also investigates the influence of fire on nutrients, water, and light and productivity.
Artist Biography

I was raised on Long Island, New York, about 65 miles from New York City. My formative experiences of the natural world were not of wilderness, but of a sandy yard full of weeds and oak trees, county parks, private nature preserves, ostensibly public shorelines backed by private homes, and the tangled, overlooked non-places just over the fences of suburban civilization. Transitorily occupied woods and thickets, muck estuaries and shifting sand shorelines were where adventure could be found. These conditioned my ideation of nature as much as the storm fueled thrashings of Long Island’s coastline provided an early image of climate change and hubris well before I knew what these were.

For many years I was a landscape painter, but in 2017 I made a switch to photography. As with many artists, I had been making photographs since childhood, but didn’t pursue it as an art form. In college, I briefly switched to photography as a major discipline and, a year later, I was the night dark room manager where I printed nightly. Although the magic of printing was real, I truly felt that one needed to be an excellent printer to be an excellent photographer -and I wasn’t getting good fast enough. I also desired color, but didn’t like the look of color prints or the expense of slide-based cibachrome prints. Upon my return to school I threw all my weight into painting and continued for the next twenty-seven years. Within my discipline I immersed myself in all things landscape, from Northern Renaissance gems to Rackstraw Downes, Carleton Watkins to the Dusseldorf School of Photography, the story of Gilgamesh to the writings of Paul Shepard.

As it was, photography had long ago taken up the mantle of landscape where painting had left it behind. If landscape was dead, no one told the photographers. Yet, both media share common cultural and psychological roots, extending a kind of semantic interoperability between the two. My photographs sometimes reflect this, revealing my knowledge of landscape painting and its history in photographic form. I have discovered that it is more enjoyable to hear that my photograph looks like a painting than it ever was to hear my painting looked like a photograph. Why is that? Maybe it is because the subject of painting is often said to be painting, and although it is no different with photography, the false, but lingering notion of truth complicates the issue enough that those of us who want to focus on subject are able to dodge it.

I have lived and created artwork in many of the canonized American locales: the Hudson Valley, New Mexico, and Maine. Minnesota is new to me, but not to my wife who was born and raised here. I now live in a patchwork of wetlands, woodlands, and swamp. Whereas I previously lived in Brooklyn, NY, I now cannot see the neighboring homes. Our land has been degraded by years of agricultural, community, and gravel pit dumping. Despite that, we have been cleaning it up. Each year I grow by seed several species of woodland and edge local native plants to replace the garlic mustard, buckthorn, creeping charlie, and European bellflower that we make an effort to remove. As a gardener, I consider this work gardening. I do not necessarily favor the native over the newcomer, but at the same time I do not favor a homogenous garden.

I am currently teaching and developing photography programs at the University of Minnesota Landscape Arboretum. In New York City, I taught drawing and visualization and directed a fabrication studio in the School of Architecture & Design at the New York Institute of Technology. I’ve also taught my class Landscape and Meaning at Art New England from 2014-2016. For several years I was Dean at the Skowhegan School of Painting and Sculpture where I was a participating artist in 2000. I’ve attended the MacDowell Colony twice, and have been an artist in residence at Weir Farm NHS and Henry Street Settlement. I’ve participated in several group and solo exhibitions in Iowa, Massachusetts, New York, Virginia, New Mexico, Wisconsin, Maine and Rhode Island.

Read my latest writing here: [www.nycgarden.blogspot.com](http://www.nycgarden.blogspot.com)
Keep up to date with my work: [www.frankeuschke.com](http://www.frankeuschke.com)
Learn more about Cedar Creek’s ESR here: [www.cedarcreek.umn.edu](http://www.cedarcreek.umn.edu)
Frank Meuschke is a fiscal year 2019 recipient of an Artist Initiative grant from the Minnesota State Arts Board. This activity is made possible by the voters of Minnesota through a grant from the Minnesota State Arts Board, thanks to a legislative appropriation from the arts and cultural heritage fund.

These artworks were conceived at the University of Minnesota’s Cedar Creek Ecosystem Science Reserve in East Bethel Minnesota. My appreciation goes to Cedar Creek Education Outreach Coordinator Caitlin Barale Potter and Executive Office and Administrative Specialist Megan Lauzon for the assistance and conversation throughout my artist-in-residence period.

Thanks to Waseca Art Center for supporting this work and to the staff for all their work mounting and promoting the exhibit.

Special thank you to Betsy Alwin for her unconditional support of my art making.