

History of the Ecology & Restoration PPN: With a Look at Landscape Restoration & Management Efforts in Michigan and Kansas

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History of the E&R PPN – formerly the Reclamation & Restoration Professional Interest Group

In 1985 ASLA did not publish proceedings. Anthony M. Bauer (Michigan State U.) and other landscape architects engaged in the **reclamation education session** prepared **handouts** for ASLA. At ASLA annual meetings, Tony Bauer continued organizing education sessions, building on work by Ken Schellie; Tony served as the 1st chair of the ASLA Open Committee on Reclamation in 1985.

The **committee newsletter** was called LARS: Landscape Architectural Reclamation Supplement, published three times in 1987. Norm Dietrich (Iowa) served as 2nd chair (1987), Todd Lewis (Utah) 3rd chair (1988-89), Jon Bryan Burley (Michigan) 4th chair (1990-92), and Gary L. Ruyle (California) 5th chair (1993-95).

Tony Bauer & Jon Bryan Burley, Michigan State University, were co-chairs (1996-98), with Jon remaining as chair until 2000. Bernie Dahl (Purdue University) became chair in 2001, adding Lee Skabelund (Virginia Tech) as a co-chair in 2002.

Source: **Reclamation and Restoration Professional Interest Group: A Brief History (1985-2004)**

By: Dr. Jon Bryan Burley, ASLA, Michigan State University (lead author) *and*
Lee R. Skabelund, ASLA, Virginia Polytechnic Institute & State University

History of the E&R PPN – formerly the Reclamation & Restoration Professional Interest Group

The ASLA Open Committee on Reclamation managed a budget, using funds to publish **newsletters, proceedings, a yearly roster & membership survey**, host participants in education sessions, and provide mailings of pertinent printed materials published by others. Membership rose to over 100 members in the late 1980s and early 1990s and held steady at around 80 members in the late 1990s.

Beginning in 1991, the ASLA Open Committee on Reclamation discussed changing the name to the **ASLA Open Committee on Reclamation and Restoration**. Committee members thought the name change was a good idea due to growing interest in landscape restoration. The Spring 1992 newsletter, announced the name change (approved by ASLA). In 1998, our ASLA open committee became the “Reclamation and Restoration Professional Interest Group.”

In **1997**, ASLA initiated a program where all newsletters were produced at national headquarters, including the Reclamation and Restoration newsletter.

In **2002**, ASLA desired all newsletters be published online. Lee Skabelund (Virginia) led development of the Group’s website (2002-03), assisted by Allegra Bukojemsky (California).

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At times, members have been **liaisons to other organizations**, including: American Society for Surface Mining and Reclamation, International Erosion Control Society, Society for Ecological Restoration, Wildflower Research Center, and International Association of Landscape Ecology.

Reclamation and Restoration members (Norm Dietrich in Iowa, Sue Massie & Georganna Collins in Illinois, Tony Bauer & Jon Bryan Burley in Michigan, Tom Nieman in Kentucky, Todd Lewis, Craig Johnson & John Ellsworth in Utah, Gary Ruyle in California) contributed chapters to an **Environmental Design for Surface Mine Reclamation** book (Mellen Press, 2001).

From **2000 to 2002** Bernie Dahl chaired the group. At ASLA's 2000 Annual Meeting in St. Louis, Bernie led a discussion about who to invite to speak at the following year's group-sponsored educational session. Working with Lee Skabelund, Michael Hough (Toronto, Canada), and Fred Phillips (Arizona), Bernie developed a **restoration and reclamation session** for the 2001 Annual Meeting in Montreal (cancelled due to 9/11), and the 2002 Annual Meeting in San Jose, California (where Bernie, Lee & Fred presented student and professional reclamation and restoration work from sites and landscapes in Indiana, Michigan, and Arizona). Following the 2002 meeting, brief **case study reviews** (from a "stream restoration" field trip) were developed by Jon, Lee & Mark Eischeid.

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In San Jose, Lee Skabelund was elected Co-Chair of the group, and Allegra Bukojemsky volunteered to help place group information online. Lee initiated plans for the **2003 Annual Meeting in New Orleans**, where two **back-to-back education sessions** and a group-sponsored “Coastal Restoration Ecology” **field trip** were held. In New Orleans, Lee moderated a **restoration ecology panel** discussion while formal presentations were given by local experts in restoration ecology and cultural geography (including Don Davis of LSU’s Applied and Educational Oil Spill Research and Development Program, and Greg Grandy and Kenneth Bahlinger, landscape architects working with the Louisiana Department of Natural Resources). Greg & Kenneth led the group’s **tour** of the USDA-NRCS Plants Materials Center in Golden Meadow, Louisiana, to a number of wetland and shoreline restoration sites, followed by a **Grand Isle shrimp feast**.

Keith Bowers of Bio-Habitats in Maryland discussed the Nine-Mile Run stream reclamation and habitat restoration project in Pittsburgh, Pennsylvania.

In 2004, the Reclamation & Restoration Professional Interest Group hosted an **education session** and **landscape restoration tour** at the ASLA Annual Meeting in Salt Lake City, Utah. Both considered the linkages between restoration, landscape ecology, and landscape planning. **Papers** in the Annual Meeting Proceedings/Abstracts were prepared **four years running** (2001 to 2004).

In 2005, geomorphologist Matt Kondolf (UC Berkeley) and Lee Skabelund (Virginia Tech and Kansas State University) interviewed 17 experts in the field of ecological restoration (including leading landscape architects & ecologists in academia and practice).

Important themes emerged, and five big ideas:

A) Effectively collaborate and communicate about project intentions, goals and approaches— involving planners, designers, relevant agency personnel, scientists, other disciplines, clients, stakeholders, and the public.

B) Base our project goals on a realistic appraisal of what is feasible given current and expected bio-physical and socio-political conditions in the area and region.

C) Be explicit about desired future conditions and establish measurable performance standards related to project intentions, goals, and objectives if we are to determine a project success.

D) Recognize that invasive species monitoring and management will likely be a part of nearly every ecological restoration effort.

E) Build the institutional infrastructure necessary to manage a restored site, ecosystem, or landscape over the long-term.

Per professionals interviewed, indicators of “successful ecological restoration” include two outcomes:

- 1) *the project’s effectiveness in meeting stated project goals, objectives, and performance criteria, and*
- 2) *the ability to create a system that functions in accord with desired ecosystem attributes and conditions.*

***Defining Ecological Restoration Success:
Principles, Project Case Studies, and Global Implications***

ASLA/IFLA 2006 Education Session – L. Skabelund, K. Bahlinger & K. Bowers

Defining Success in Ecological Restoration

Lee Skabelund summarized “Successful Ecological Restoration: A Framework for Planning/Design Professionals”. The importance of developing meaningful ecological restoration goals, objectives, and performance criteria was discussed and a number of case studies were presented.

As one example, Andropogon’s Avalon Park and Preserve project in Long Island, NY was used to discuss the following “indicators of success”: 1) employs aesthetics to create pleasing human experiences; 2) is acceptable to the client, stakeholders, and the public; 3) is properly designed, implemented, managed & monitored (uses appropriate references, specifies appropriate materials, employs appropriate tools & techniques, and is enjoyed & cared for over the long term).

Project Examples & Case Studies within the Lower Mississippi River Watershed

Kenneth Bahlinger, PLA (Louisiana Dept of Natural Resources) discussed coordinating ecological restoration projects along the Gulf Coast. Kenneth and highlighted implemented and anticipated ecological restoration efforts along the Gulf Coast of Louisiana following a series of powerful hurricanes that hit the Gulf Coast, including Katrina and Rita.

**ECOLOGICAL RESTORATION OF THE LOUISIANA COASTAL MARSH
Follow up review prepared by Kenneth Bahlinger & Lee R. Skabelund**

ASLA 2006, continued - ***Global Implications of Ecological Restoration (Biohabitats)***

Keith Bowers (President of Biohabitats; Chair of the Board of Directors, Society for Ecological Restoration International) discussed **pressing ecological restoration needs and opportunities around the world**, sharing what he learned during his tenure as SERI President. **The vital role of traditional cultures and local communities in ecological restoration was a primary focus of this presentation.**

Global Processes

Defining Ecological Restoration

Ecosystem Restoration vs. Ecological Restoration

Blurring the Boundaries

Restoring Natural Capital

Poverty Alleviation

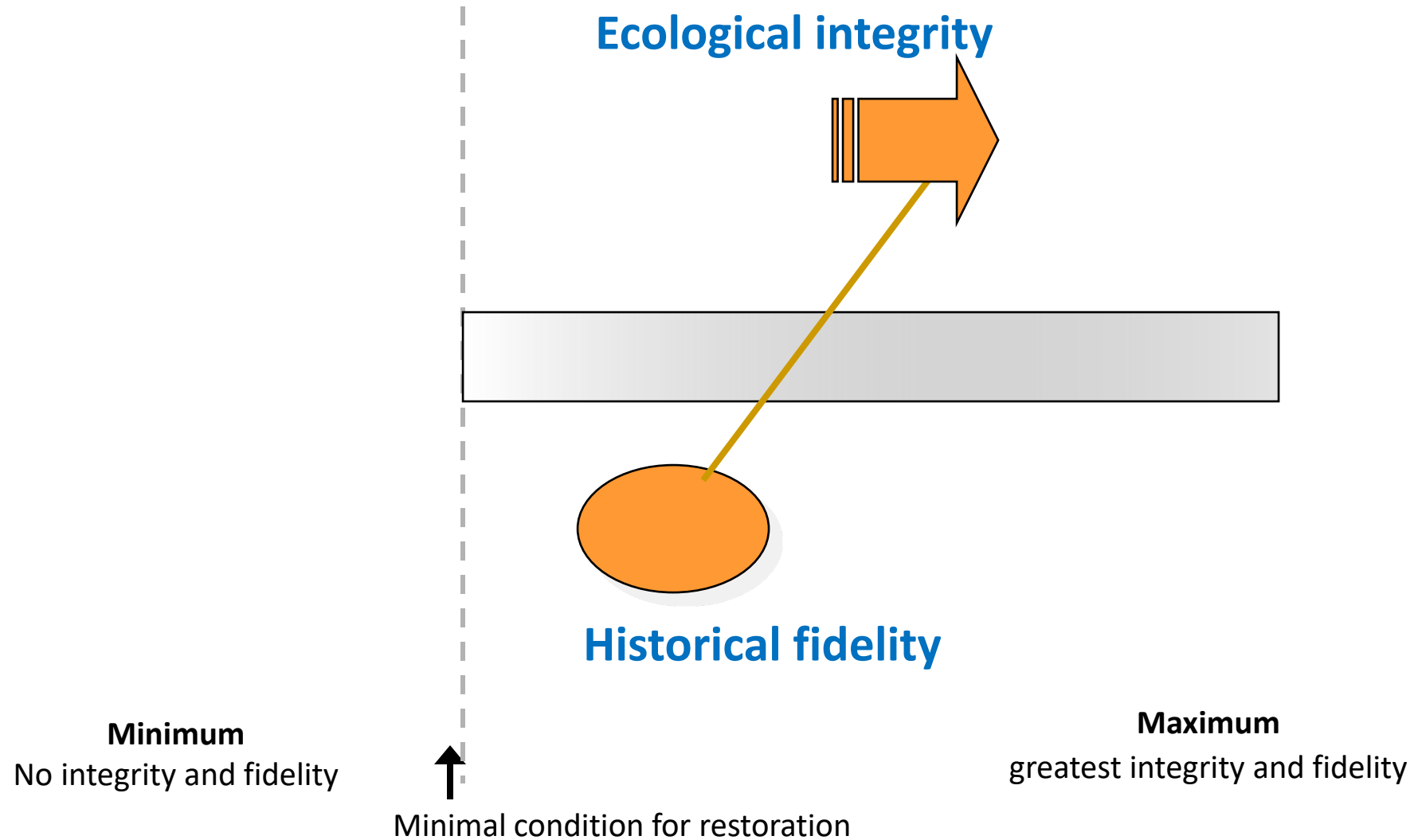
Green Infrastructure

Sustainable Design

Adaptive Management



Ecosystem Restoration vs. Ecological Restoration

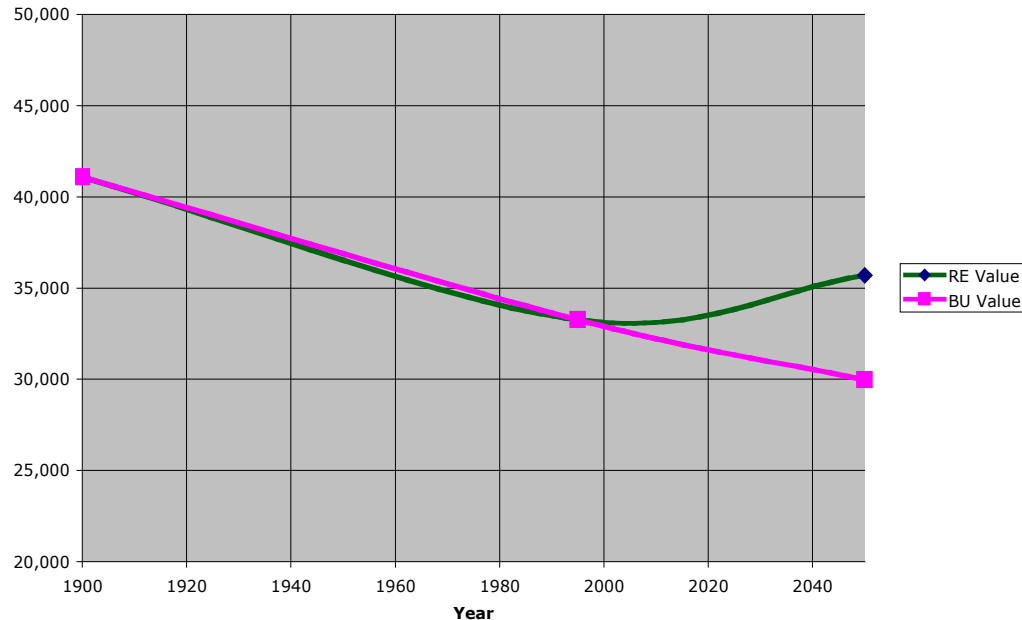


The Greifswald Statement on Ecological Restoration

All life on earth depends on the ecosystem services accruing from natural capital, that is the sum of the air, rocks, water and life and their interactions – in other words the global ecosystem.

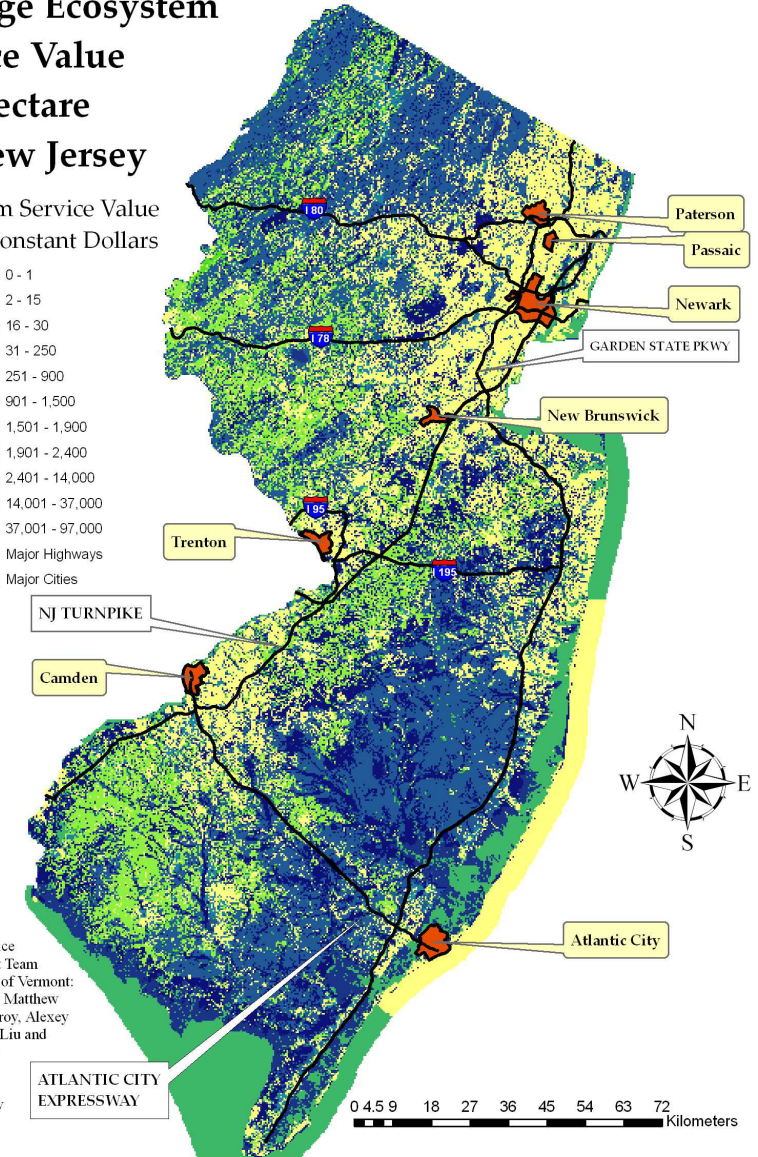
We call upon society's leaders to achieve a radical paradigm shift and help usher in a new era built upon twin conceptual pillars: Economics in which nature matters and ecology in which people matter.

Value of global ecosystem services under Business as Usual (BU) and Restored Earth (RE) scenarios



Average Ecosystem Service Value per Hectare for New Jersey

Ecosystem Service Value in 2001 Constant Dollars



The New Jersey Ecosystem Service Valuation Project Team at the University of Vermont: Robert Costanza, Matthew Wilson, Austin Troy, Alexey Voinov, Shuang Liu and John D'Agostino

Map Produced by Austin Troy and John D'Agostino

Vietnam in one of world's biodiversity "hotspots"

- Need to restore cover
- Need to improve connectivity

Vietnam has many poor people

- 64% people have <US\$2 per day

Many farmers interested in Reforestation

But they need a financial benefit to balance opportunity costs of reforestation

Objective: restore forest cover and alleviate poverty

Initially carried out using fast-growing exotic species

- provided goods (but limited & low value)
- provided few services or functional benefits

An alternative: find high value native species attractive to farmers by surveying small rural sawmills

- Identify preferred species and relative prices
- Use these in mixed farm plantings



Why Science is Important to Landscape Architecture

How science & landscape architecture relate.

Take home message: Many different strategies and interventions can enhance human well-being and conserve ecosystems, esp. as designers work closely with scientists and develop ecological understandings.

Per Newman (2007) climate scientists tell us we need to rapidly remake cities in ways that reduce oil usage and greenhouse gases.

*Lee R. Skabelund, ASLA - Kansas State University
Landscape Architecture/Regional & Community Planning
ASLA Annual Meeting - San Francisco 2007*

Integrating Science *Into* Design (ASLA 2007) – Lee Skabelund

- **Design teams need to understand three primary issues related to ecology:**
 - 1) essential physical & ecological processes associated with ecosystems;
 - 2) regional drivers of environmental change;
 - 3) site specific dynamics where design interventions are being considered.
- **Integrating science and design requires regular two-way communications between disciplines & effective collaboration on specific problems.**
- **Likely results: *Pollination of design work by knowledgeable scientists broadens and deepens design recommendations.***

See: Johnson & Hill (2002)

Beyond Sustainability Talk: Regenerating Places and People

*Creating Sustainable Landscapes by
Interweaving Ecosystem Restoration and
Ecological Design*

ASLA Chicago 2009 - 9/18 Education Session

Lee R. Skabelund, Allegra Bukojemsky, Andi Cooper

- L. Skabelund – *defining success in ecological restoration (ER); findings from ASLA’s 2008 LATIS ER publication***
- A. Bukojemsky – *implications of ecological restoration related to sustainable planning/design: Nine Mile Run, Pittsburgh, PA***
- A. Cooper - *integrated ecological restoration and sustainable planning/design: Kresge Foundation Headquarters, Troy, MI***

Guided Discussion

Ecosystem Restoration and Ecological Design
Prepared by Lee R. Skabelund, ASLA
for ASLA's "The Field"
November 22, 2012

At ASLA's Annual Meeting in Chicago in September 2009, I discussed guiding principles related to ecological restoration in urban and suburban settings. I also highlighted indicators of "restoration success." In this post I revisit ideas shared in a subsequent summary report of our education session.

ASLA's 2008 *Successful Ecological Restoration* Landscape Architecture Technical Information Series (LATIS) paper is a great place to learn about the basics of ecological restoration design.



For more Ecology & Restoration online posts since 2010 see:
<https://thefield.asla.org/category/ecology-and-restoration/>

Many other E&R-PPN
leaders and members have contributed!

Thank you!!!

History of the E&R PPN – formerly the Reclamation & Restoration Professional Interest Group

In 2014, the name of our committee/group/network changed again...

7/3/2014 ASLA R&R-PPN conference call notes (lrs)

Purpose of the call: determine an appropriate new name for the PPN.

Lee Skabelund: How about Ecological Restoration?

Keith Bowers: What were the concerns related to the use of “conservation” in Ecological Conservation & Restoration? Many of us are working on conservation and this arena is vital to landscape architecture...

Per Joe Howard’s e-mail regarding the ASLA Mtg. R&R-PPN discussion (15-20 people, many new) some saw the term “conservation” as static or limiting [per Lee, perhaps more akin to “preservation”].

ASLA: Need a name that is simple and clear. Then, communicate and operationalize our vision:

“The ASLA Reclamation and Restoration PPN serves as a forum for landscape architects interested in land reclamation and ecological restoration to exchange knowledge, ideas and information, and works to improve communication among professionals with similar interests.”

Considered: Landscape Ecology & Ecological Restoration; Applied Ecology & Restoration; and the ultimate winner **Ecology & Restoration**

Learning from Three Decades of Practicing Ecological Restoration in the Upper Midwest (U.S.) - 1.0 PDH (LA CES/HSW) - Nov 19, 2018

Restoring degraded landscapes often brings both surprises and disappointments. While some changes become apparent after the first year or two of interventions, working on restorations for a decade or more provides valuable lessons and insights for the practice of ecological restoration. Bob Grese and David Borneman have worked on long-term restoration efforts in Ann Arbor, Michigan's natural areas program and a university botanical gardens and arboretum and shared lessons learned over 20-30 years of practice.

Topics included the detective work in learning a site's history and potential for restoration, developing restoration targets and realistic expectations, creating the mechanisms for carrying out a restoration, and committing to the long-term needs of a restoration project. Emphasis was on terrestrial ecosystems of the upper Midwest—namely prairies, oak openings, and woodlands.

Learning Objectives:

- Identify background information needed about a site and its history (especially related to plants, soils & hydrology) before beginning planning a restoration
- Understand criteria for setting restoration targets and planning a restoration process
- Understand the need for evaluation and the commitment needed for restoration success

Moderator: [Lee R. Skabelund](#), ASLA, Kansas State University, Landscape Architecture and Regional & Community Planning

Speakers: [Bob Grese](#), ASLA, Director, Matthaei Botanical Gardens and Nichols Arboretum; School for Environment and Sustainability, University of Michigan; [David Borneman](#), Manager, City of Ann Arbor Natural Areas Preservation; David Borneman, LLC, Ecological Restoration/Prescribed Fire Contractor

Set appropriate and feasible management goals:

Identify conservation targets/desired future condition. “What do you want it to be?”

Identify threats/stresses/obstacles to reaching that desired future condition

Assess threats (immediacy, extent, reversibility...)

Identify potential abatement strategies

Evaluate and optimize strategies with available resources

Prioritize:

Compare among communities and within a site to determine ecological priorities

Identify other considerations (educational potential, visibility, landowner desires...)

Implement restoration efforts according to prioritization

Evaluate and modify efforts (incl. burn mgmt.) based upon observed results

Promoting Pollinators Through Landscape Architecture: Strategies to Improve Habitat Value & Landscape Performance - 1.0 PDH (LA CES/HSW) - *Jun 18, 2019*

Pollinators are an imperative part of biodiversity and also vital to our well-being by contributing to one-third of global food production. Their populations and habitats are sharply declining. **This presentation explored how pollinators can be supported at multiple scales by the collective effort between conservation ecologists and landscape architects.**

Participants learned about the importance of understanding their ecoregion, ways to identify research opportunities, and how to develop a design strategy that includes foraging resources, safe locations, and materials shelter/nesting sites (or host plants for butterflies and moths—Lepidoptera).

Learning Objectives:

- Identify current trends and major threats relating to pollinator populations and habitat.
- Know the critical elements and key resources needed for the habitat preservation of pollinators with an emphasis on bees and lepidoptera.
- Recognize how the work of landscape architects can contribute to the preservation & creation of pollinator habitat.
- Strategies for implementing pollinator habitat at various scales.
- Gain insight from lessons learned through practice.

Hosted by the ASLA Ecology and Restoration Professional Practice Network (PPN)

Speaker: [Anthony Fettes](#), ASLA, PLA, SITES AP, Senior Associate, [Sasaki Associates, Inc.](#)

Moderator: [Lee R. Skabelund](#), ASLA, Associate Professor, Kansas State University, Dept. of Landscape Architecture and Regional & Community Planning



Promoting Pollinators

Through Landscape Architecture:

Strategies to improve habitat value & landscape performance

Presenter

Anthony Fettes, ASLA, PLA, SITES AP
Senior Associate, Sasaki

What is pollinator habitat?



Foraging Resources

Nectar (carbohydrates) and/or pollen (protein) throughout the growing season that coincides with the pollinator's life cycle



6/17/2019 A. Fettes (Sasaki)

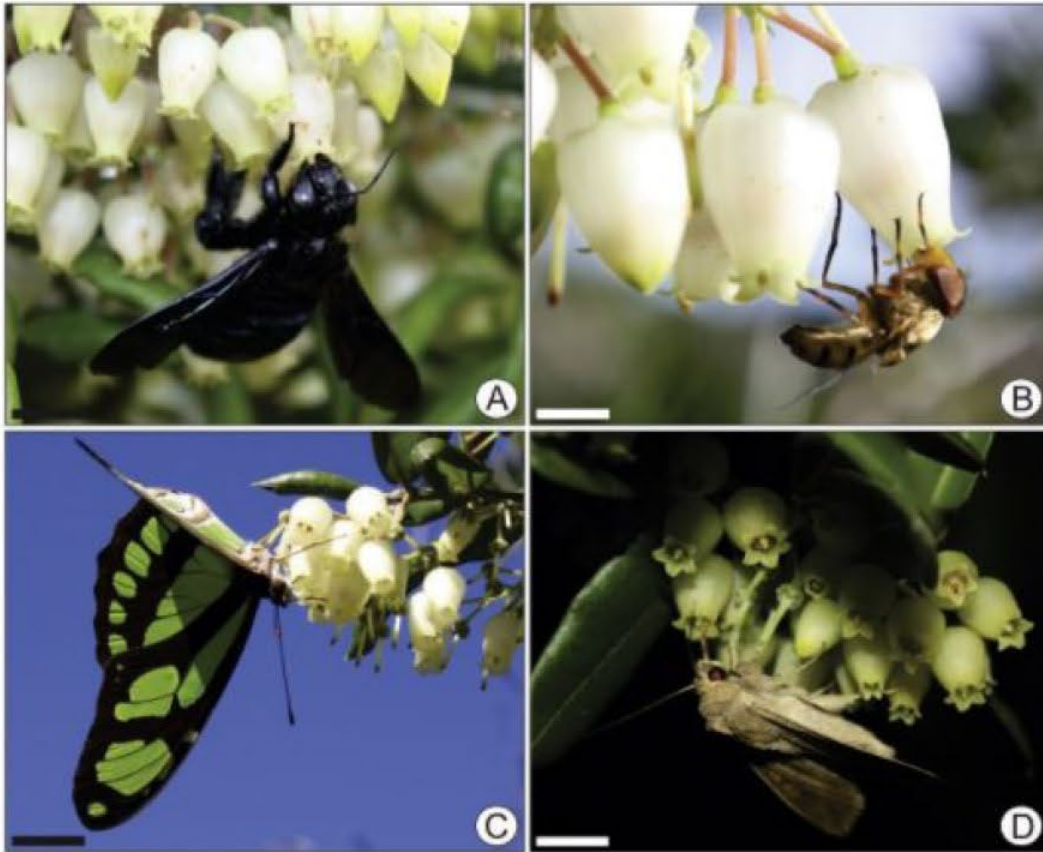
Larval Host Plants

Specific plant species utilized by butterflies & moths to lay eggs and support caterpillar development



Shelter/Nesting Sites

Construction materials and protected spaces for nesting and overwintering



Generalist Plants

M. Muniz-Moreira, A. Soares-Miranda, H. Alves de Lima. 2017. *Agarista revoluta* (Ericaceae): A generalist plant with self-compatible and self-incompatible individuals. *Flora* 234:7-14



Specialist Plants

D. Johnson, Steven & Peter, Craig & Ellis, Allan & Boberg, Elin & Botes, Christo & Van Der Niet, Timotheus. (2011). Diverse Pollination Systems Of The Twin-Spurred Orchid Genus *Satyrium* In African Grasslands. *Plant Systematics And Evolution*. 292. 95-103. 10.1007/S00606-010-0411-1.

Challenges & Opportunities

How can we improve our specifications to ensure proper planting, establishment, and maintenance of pollinator landscapes?

- **Scrutinize boiler-plate landscape specs**
- **Work with your nursery/seed supplier to verify planting & establishment procedures**
- **Communicate to the construction & future maintenance team that this is not a "traditional" landscape**

Challenges & Opportunities

How can landscape architects influence the market for locally native plant material?

- **Potential to build the market by specifying unique or lesser-known locally native plant species**
- **Contract production would allow time for collecting seed and provide needed funding to expand the market**

Slide contributor: Rob Fiegener | Institute for Applied Ecology

The Field articles (two recent posts to the ASLA website):

- **Performance-Based Plant Selection: Developing a Bioretention Plant Selection Tool**, by Jeremy Person, PLA, ASLA, with co-authors Ann English, PLA, ASLA, Ted Shriro, Andy Szatko, John Watson, and Jim Cooper, ASLA; edited by Lee Skabelund
Sep 7, 2023 - <https://thefield.asla.org/2023/09/07/performance-based-plant-selection-developing-a-bioretention-plant-selection-tool/>
- **Restoring a Neglected Urban Creek**, by Susan Kenzle, ASLA
Jun 15, 2023 - <https://thefield.asla.org/2023/06/15/restoring-a-neglected-urban-creek/>



**Matthaei
Botanical
Gardens**
May 2022
Irs photos



“The goal at Nichols Arboretum is to restore approximately 20 acres of globally rare prairie and oak openings (oak savanna) natural communities within Dow Field in the northeastern portion of the Arb.

The prairie and oak savanna at Nichols Arboretum are remnant native grassland ecosystems that have experienced significant encroachment by trees and invasive shrubs over many years. These ecosystems have become rare across the Midwest due to fire suppression and conversion of land for agriculture and development.”

(Source: <https://mbgna.umich.edu/restoration-work-to-begin-at-matthaei-and-the-arb-winter-2020/>)



“The goal at **Matthaei Botanical Gardens** is to **restore globally rare prairie fen and wet meadow natural communities in Cummings Fen in the northern portion of the property**... The ecological restoration work planned for Cummings Fen includes cutting invasive shrubs to create open conditions and allow sunlight to reach the ground and stimulate growth; gathering and dispersing native wetland seeds to facilitate recolonization by wetland herbaceous plants; and conducting a prescribed burn to stimulate growth of native wetland vegetation and maintain open conditions.” (<https://mbgna.umich.edu/restoration-work-to-begin-at-matthaei-and-the-arb-winter-2020/>)

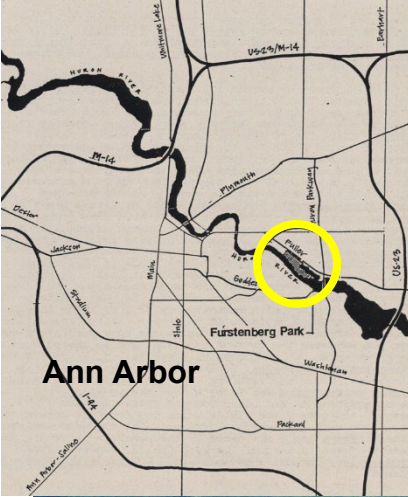




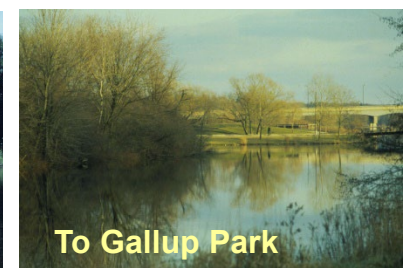
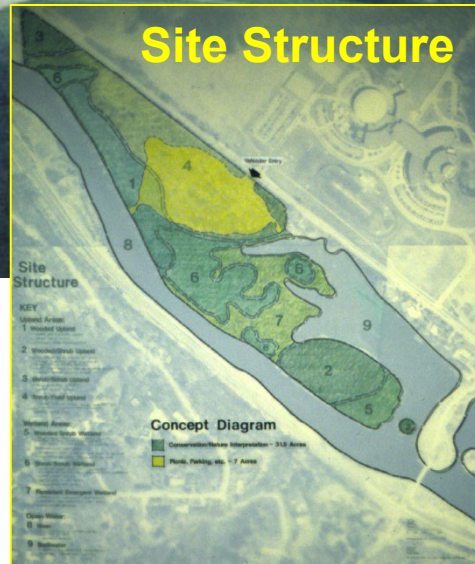
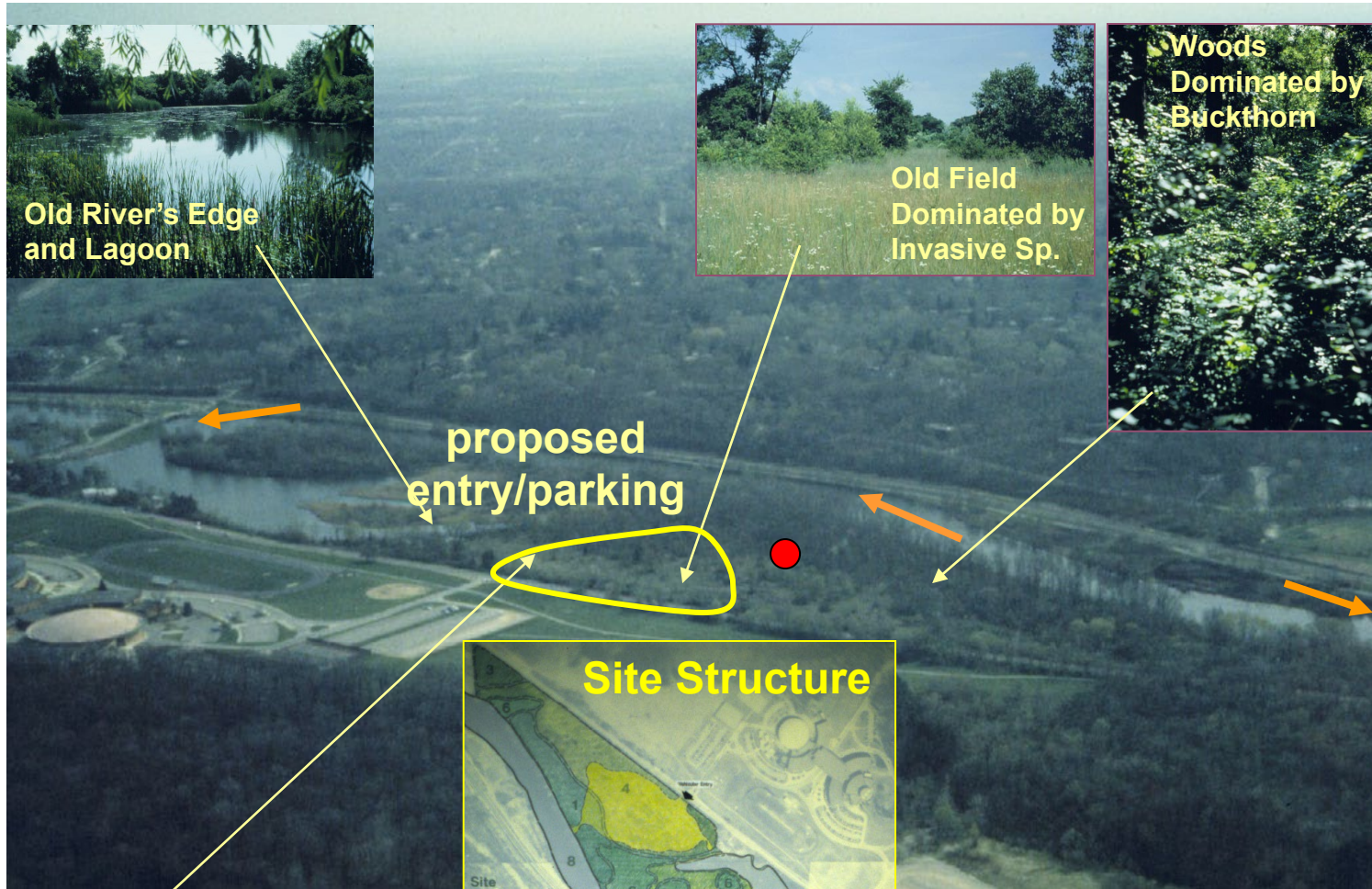
**Bob Grese Home &
Landscape Restoration**
May 2022 – Irs photos



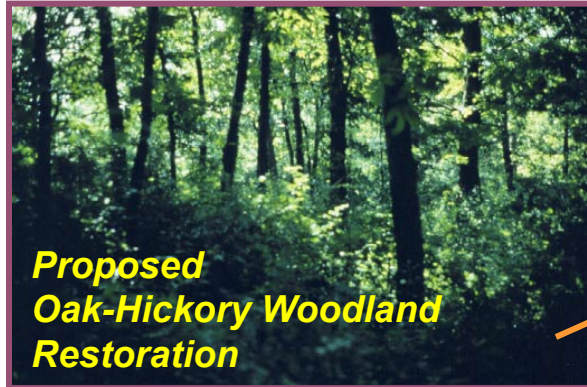
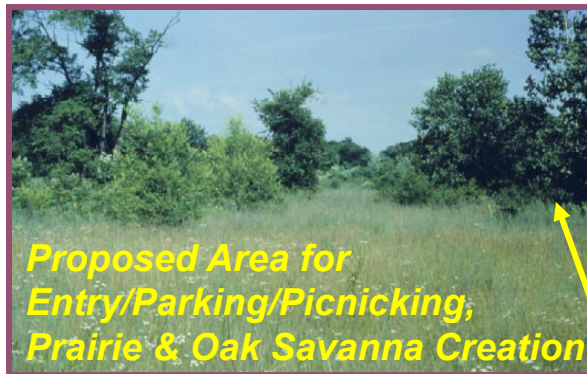
Ann Arbor, Michigan and Fürstenberg Park – circa 1991



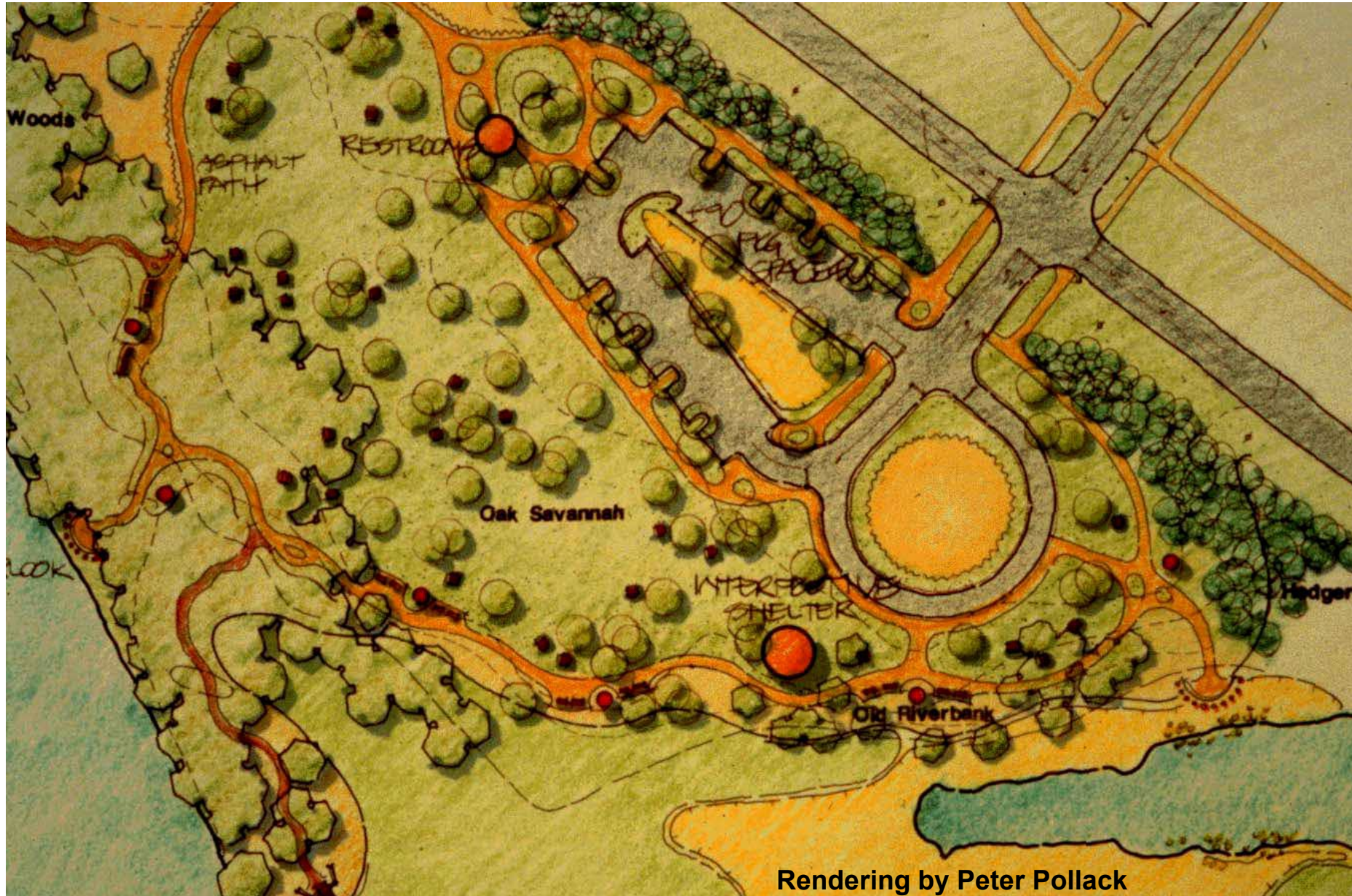
Site Structure, Function, and Opportunities



Correlate Site Structure & Function with Design/Use Intentions



Results of Furstenberg Design & Restoration Intentions



Restore Functional Oak-Hickory Woods & Prairie Systems on the Site



Furstenberg Park Prairie & Woods – 1996 (4 years after initial mgmt.)

Woodland Pathway at Furstenberg Park – Fit new infrastructure to site sensitivities...



No trees larger than 6" diameter were removed during pathway construction through the woods.



A windblown Black Oak log was used as a bench within the woods.



Consider ways to reveal site dynamics and management efforts through time



Use Restoration Design as an Experiment...

Hypothesize–Test–Evaluate



*The Walpole Island
Reference Site: a
model as to what
Furstenberg Park
might look and
function like...*



1995 Prairie Burn



1992 Treatment



Prairie & Savanna ecosystems at Furstenberg Park (1996)



**Furstenberg
Nature Park
Prairie Planting/
Restoration**
May 2022
Irs photos



**Furstenberg
Nature Park Oak
Savanna Planting/
Restoration**
May 2022
Irs photos



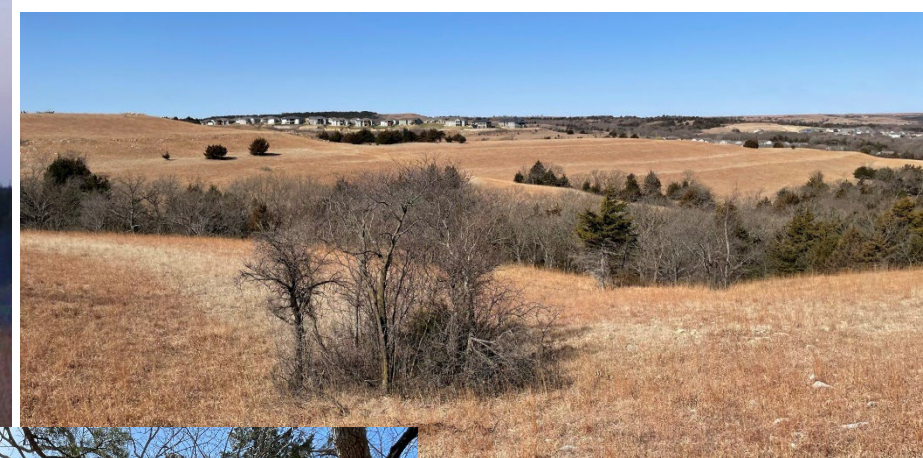
**Furstenberg
Nature Park
Oak-Hickory
Woodland
Restoration/
Management
May 2022
Irs photos**



Konza Prairie Restoration and Management

May 2022 - Irs photos

South of Manhattan, Kansas | just north of I-70



**Manhattan Area Prairie & Oak Woodland
Restoration and Management**
Mar 2006, Oct 2019, Apr 2022 - Irs photos



K-State Green Infrastructure provide restoration-like services – 2023 Irs photos (Manhattan, Kansas)

BUTTERFLY USE of TALLGRASS PRAIRIE ECOSYSTEMS and URBAN PRAIRIE-LIKE GREEN ROOFS

Pam Blackmore and Lee Skabelund

Research led by Pam at
Kansas State University...

with faculty, staff & students in
Landscape Architecture, Biology,
and other programs

GIF by Allyssa Decker of question mark butterfly on
the Memorial Stadium green roof

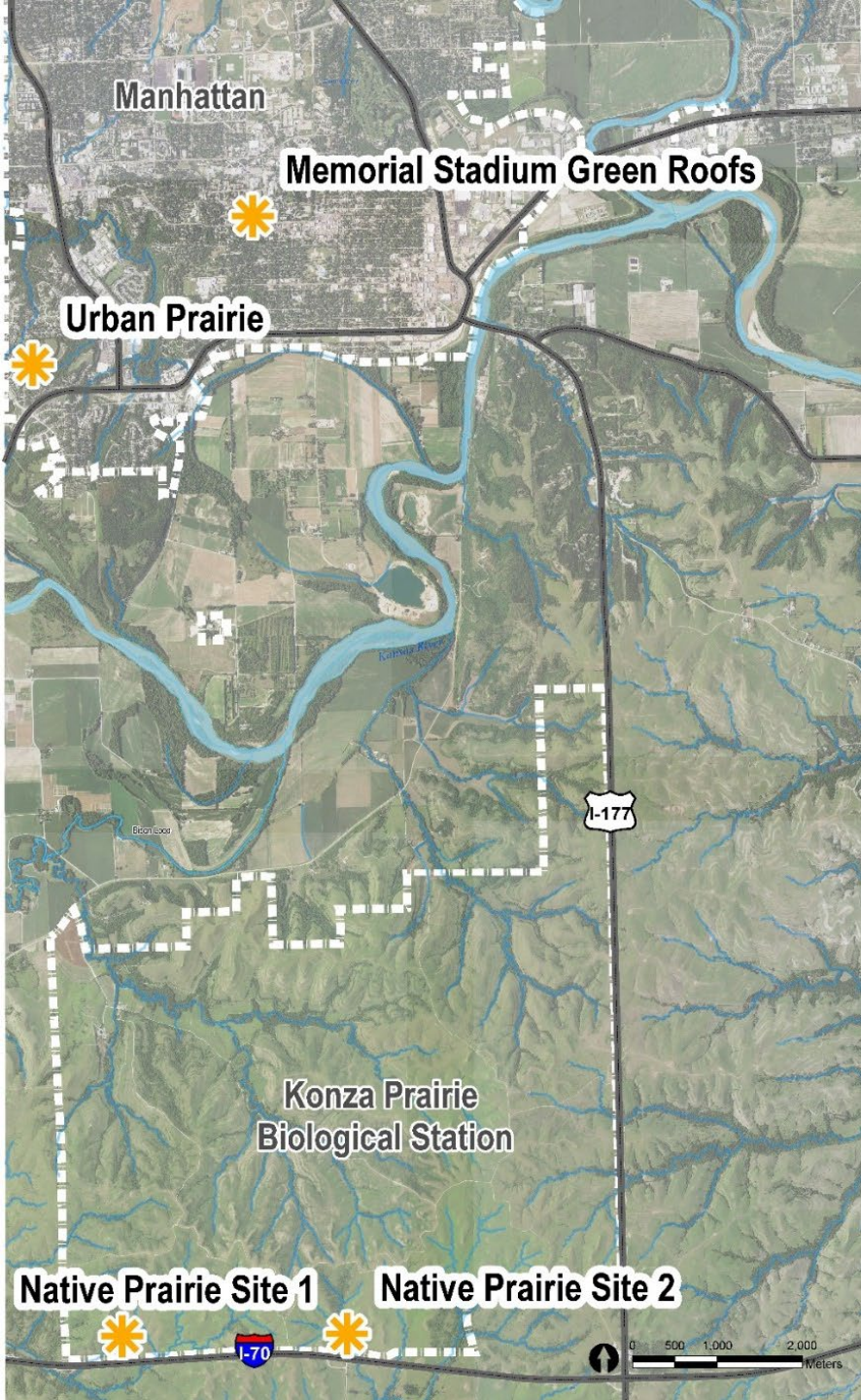


Research Questions:

- 1) To what extent does a native plant green roof support butterfly communities in Manhattan, KS, in comparison to nearby native prairie?
- 2) How does on-site vegetation composition influence butterfly species richness, diversity, behavior, distribution, and abundance?



Eastern Tailed-blue





Konza Prairie aka
"native prairie"



Warner Park aka
"urban prairie"

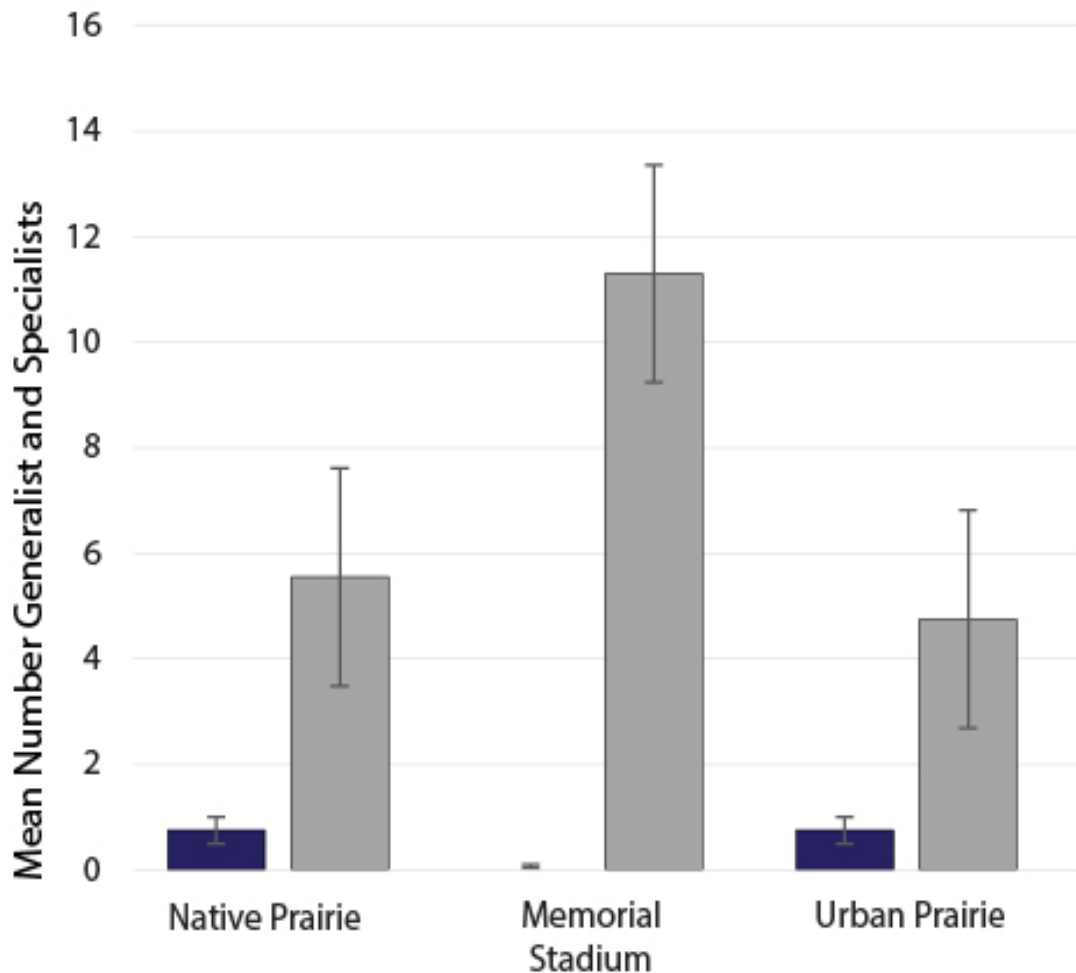


Memorial Stadium
Green Roofs

Generalist and Specialist Abundance

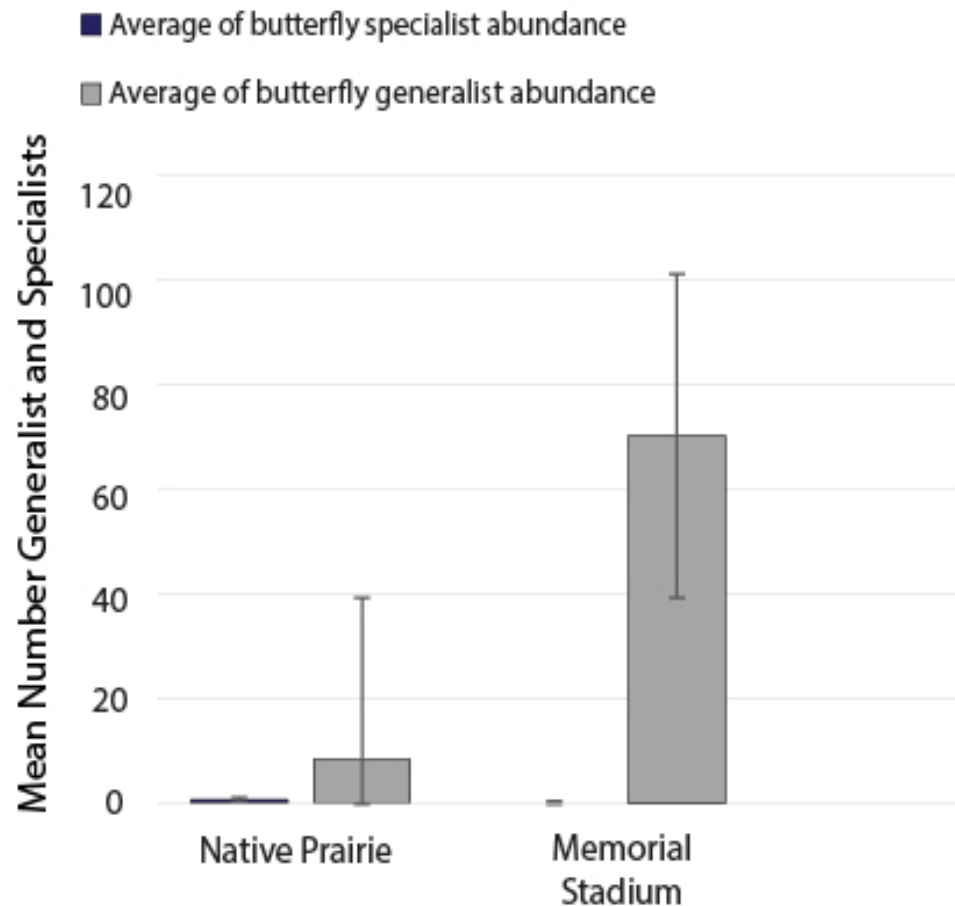
Early Season Average Generalist and Specialist Butterfly Abundance

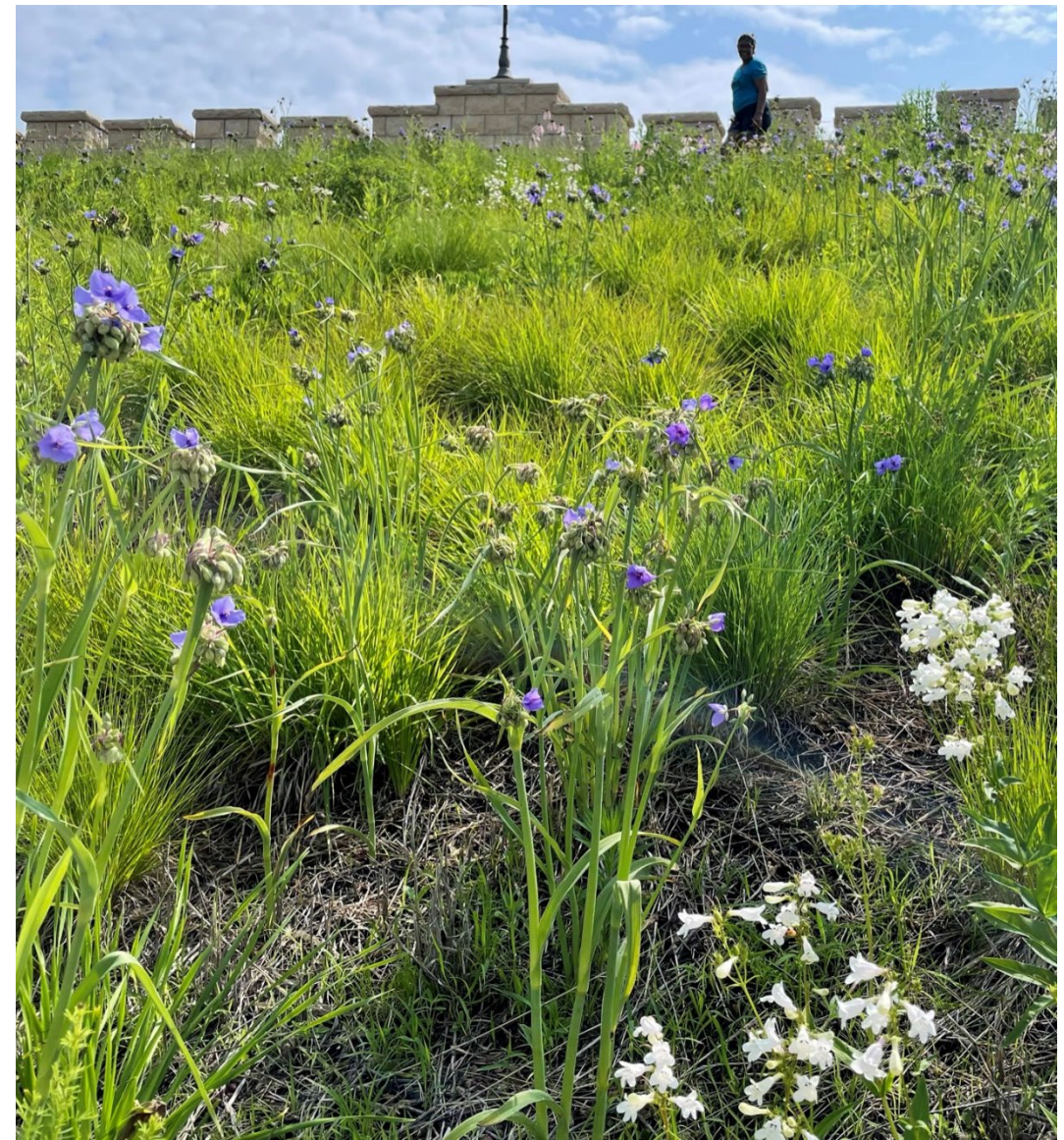
Specialist p-value=0.03 Generalist p-value=0.016



Late Season Average Generalist and Specialist Butterfly Abundance

Specialist p-value=0.093 Generalist p-value<0.02





June 1, 2023 photos on the West Memorial Stadium Green Roof:

A native bee on *Echinacea pallida*; abundant Spiderwort & Foxglove Beardtongue. Lee Skabelund



September 28, 2023 photos on the West Memorial Stadium Green Roof:
Butterflies (including Monarchs and many Painted Ladies) on *Liatris aspera*.

Lee Skabelund

To read Ecology & Restoration online posts since 2010 see:
<https://thefield.asla.org/category/ecology-and-restoration/>

Many E&R-PPN
leaders and members have contributed!

Thank you!!!

**We (Ingrid, Susan & PPN leaders) welcome your involvement.
And your thoughts about what & how to share
with the profession in the coming year.**