

Learning ecological restoration: Getting to proficiency in eight weeks, incorporating classroom and field

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Introduction

We need more practicing ecological restorationists in the world – a highly effective community of dedicated practitioners. How can we respond?

The pathways toward a career in the practice of ecological restoration are varied. Some of us get there from an academic background in ecology or conservation coupled with a passion for field work; some of us use continuing education practicums to develop know-how; some may move in their career as on-the-job experience shifts us towards the field and the practice.

Pathways for people

- Changing the faces of ecological restoration (inspired by Cream City Conservation & Consulting)
- Career-changer
- College on-boarding
- College focus towards practice
- Non-college pathway

Proficient Ecological Restoration Practitioners

We tested the hypothesis of getting people from a range of initial conditions of background and experience – to proficiency or beyond, in an immersive eight weeks, meeting five days each week.

Proficiency means having critical knowledge to both practice ecological restoration and develop a plan for an actual site using the Society for Ecological Restoration framework, including assessment of ecological need, land use history, current conditions, reference models, trajectories, steps, methods and evaluation.

Diversity of backgrounds, experiences and hometowns is an opportunity to strengthen the learning experience and expand our reach

Land Restoration School Summer 2022:

Eight-week program to develop the natural science knowledge, ecological restoration understanding, planning framework and field methods experience, the business essentials and case study insights, needed to effectively launch ecological restoration practitioner careers.

Materials and methods – in 40 days



Week-by-week

	Monday	Tuesday	Wednesday	Thursday	Friday
Shoulder Season	Crossroads Work	Crossroads Work	Client Site Work	Write On Work	Crossroads Ida Bay
Shoulder Season	Crossroads Work	Crossroads Ida Bay	Crossroads Ida Bay	Crossroads Ida Bay	Crossroads Ida Bay
Week 1	Orientation, campus hike, field methods Aten / Collins / Miller	ER framework, field methods Aten / Collins / Miller	Professional development, Equity & Environmentalism Ball	Human/land relationships Young / Grimm	Habitats field trip, reading the landscape Young / Grimm
Week 2	Natural history resources, land history, map exercises Aten	Washington Island Eco-poetry, Eco-printmaking Nance / Aten	Washington Island sustainable agriculture Rollis	Environmental justice, communication Morales	Eco-biogeography and systems approaches Aten / Collins
Week 3	Mosses and moss ecology forschings Miller / Hanke	Field methods Miller / Hanke	Soil structure and soil taxonomy Baker	Soil interaction and ecology Baker	Field methods Miller / Hanke
Week 4	4th of July Holiday	5th of July Holiday	Plant taxonomy Miller	Community ecology Stahlhuber	Invasive species ID, mgmt and GPS mapping Hanke
Week 5	Case studies / Aten Gathering Ground / Rollis	Geology, wetlands, surface and groundwater Bradbury	Hydrogeology, wetlands, surface and groundwater Bradbury	Succession and mechanisms Stahlhuber	Water historic indicators Klemme, Thiel, Kleinheinz
Week 6	Finding technical information Young	Writing and resources Young	SER framework and field methods Stahlhuber	SER framework and case studies Stahlhuber	Restoration plan outline, case studies Aten
Week 7	ER plan: history and current state, case study Aten / Collins	ER plan: ecological dysfunction, case study Aten / Collins	ER plan: restoration and remediation, case study Aten / Collins	ER plan: maintenance and management, case study Aten / Collins	Nursery visit, hysteresis, ER plan development Aten / Collins
Week 8	Entrepreneurship, client engagement Collins	ER plan individual and group review Aten / Collins	Professional development, teams and conflict mgmt Ball	Life-long learning, ER plan presentations Young	Habitats field trip Young, Grimm

Ecological Restoration Plan framework

- Introduction** In summary: rationale, the site, its context, the human community, your vision
- The Past to the Present** What happened at the site that led to the need for restoration? What kinds of ecosystems were degraded, damaged, or destroyed? Are there physical conditions needing repair? Restrictions?
- The Possible Future** What are the restoration goals? Who/what can benefit from improved ecology? What kinds of mending are possible? (Ecological, economic, cultural, experiential, educational, scientific.) What are the reference ecosystems and how can you describe them?
- The How** How will succession be your friend (trajectories, stages)? What kind of transformative or incremental changes are proposed? What constraints will you need to address? Is planting needed? Interventions related to the soil, hydrology, or other factors? Investigate effective methods or strategies. Describe steps to be taken over time.
- Monitoring and management** Discuss how you would evaluate progress in the restoration steps and be able to adapt as you learn.

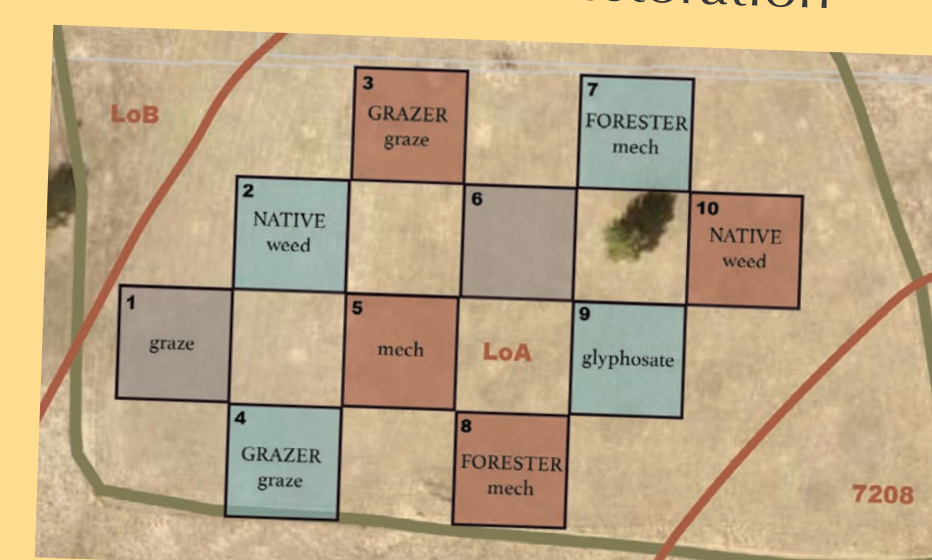
Results

Results are partly expressed in the ecological restoration plans each member of the cohort developed for an actual site. Read them at www.landrestorationschool.org/alumni.

Reforestation a Door County Oldfield: An Experimental Approach to Land Restoration

Andrew Umentum

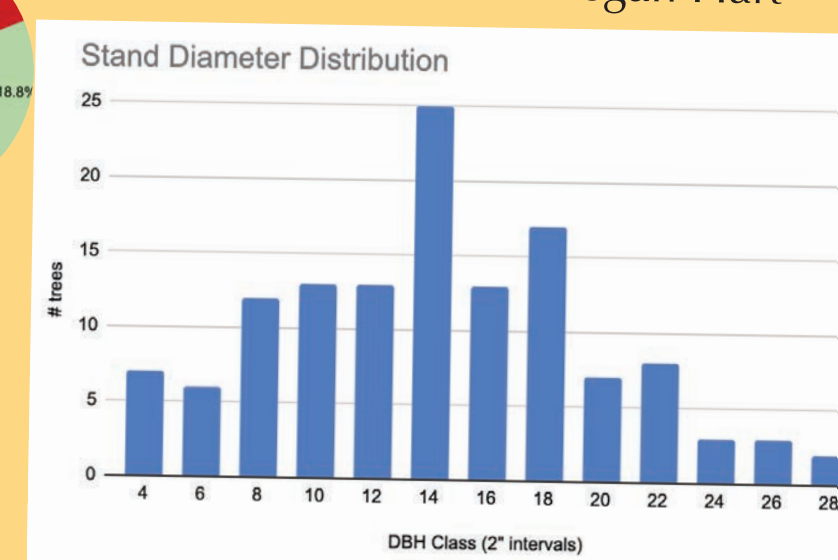
...long term research plots... ultimately, prescribe best practices.



Ida Bay: Restoration Hidden in Plain Sight

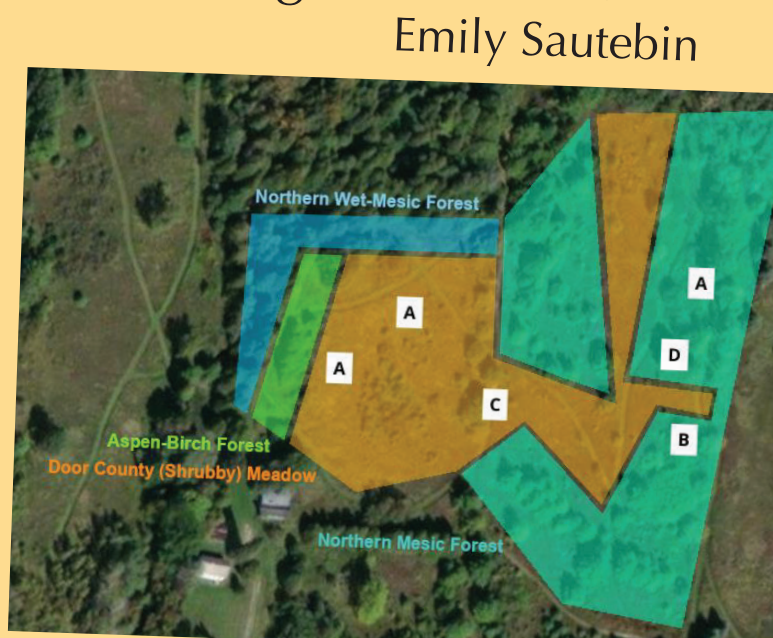
Megan Hart

Tread carefully and with intention. Give the trees room to breathe. Hide Plants in Plain Sight. Re-establish regeneration.



Growing Up(hill): Celebrating Succession

...celebrate change, catalyze the process of succession... become a not-so-hidden gem... an epicenter of change where healthy plant communities thrive; a slow re-forestation process unfolds for people to experience.



Assessments



"Ecological restoration is assisting in the process of recovering ecosystems that are degraded, destroyed, or forgotten; looking at the herstory, the future, the present and how these all affect space, carrying out the how and implementing sustainable methods that maintain the restorative process."

"Ecological restoration is the assistance of nature on her successional pathway, helping to initiate positive change in landscape health, being aware of community needs from the land and trying to mediate the relationship in a constructive way."

(All quotes, 2022 LRS Alumni)

Right: A portion of final cohort self-assessment shown here. Multiple assessments were conducted throughout the session, from both cohort and faculty.

Restoration Along the Ahnapee Trail: The Path to Ecological Health

Benjamin Kielar

...restoration forming zones of health that represent potential and possibility of this site (and others like it) and can radiate outward.



Hopkins Hollow Restoration & Management Plan

martina pateron

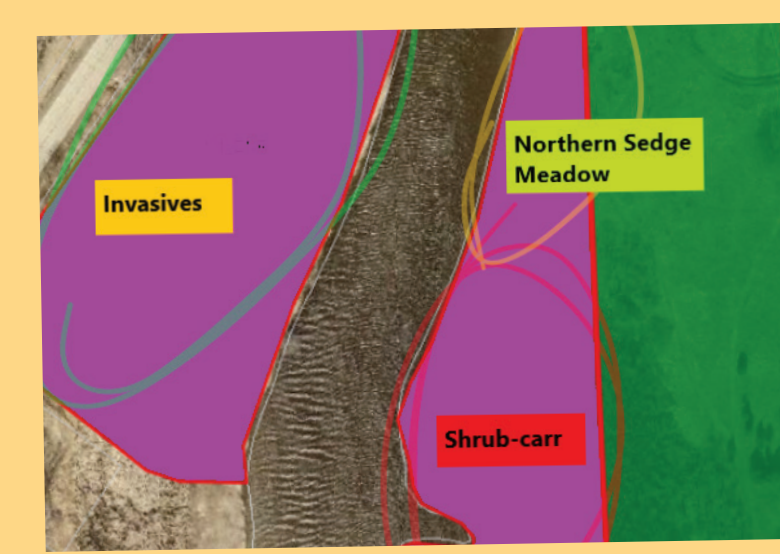
...a living classroom to reconnect community and collaborating stakeholders and restore ecosystems located in the inner city to their full thriving potential... partnering with fellow BIPOC ecologists, educators, and Nature appreciators.



Continuation of Wildlife Corridors in the Big Creek Estuary at The Cove

Hanan Ali

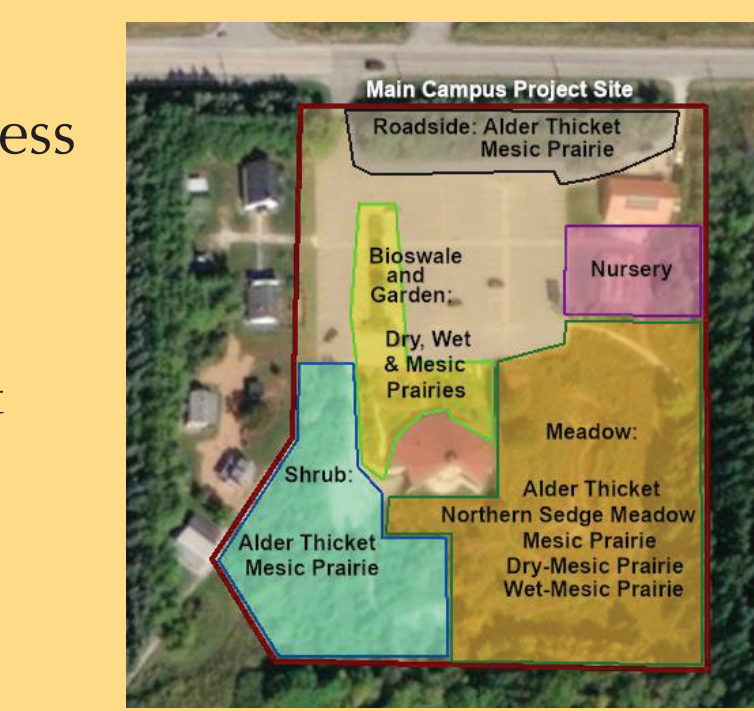
Wetlands: a habitat to protect; restoration of a disappearing ecosystem... acknowledge property lines that unnaturally constrain a landscape, but take a more nature-centric view.



Main Campus – Succession in Progress

Elizabeth Metz

The arrival experience - focus on the engagement of people, revealing restoration work, demonstrating best practices. A vision: potential in everything.



Conclusions

Incorporating lessons learned, 2023 will include an increased focus on visiting examples of healthy wetland and upland ecosystems, a stronger thread of plant identification, more case studies, a four-day week, and improved field station facilities.



"If I could do this all again, I would."
"I hope LRS continues to grow into something unique that thrives outside of academic confines."

"I gained miles on the path towards my goals; found a restorative process for myself and not just the land I'll be working with."

"Just as ecology is interdisciplinary and holistic, restoration not only pertains to moving towards the health of a place but also restoring human connections to the land and re-forming relationships."

"Any good professional understands that the real world employs knowledge from many disciplines to operate most effectively. We need to be proficient in botany, soil, wildlife, history, politics, climate, culture. The richer the understanding of each of these the better the ecological restoration."

(All quotes, 2022 LRS Alumni)

Literature cited

- Clewell, Andre F., James Aronson, *Ecological Restoration: Principles, Values, and Structure of an Emerging Profession*. Island Press, 2013.
Martin, Laura J. *Wild by Design: The Rise of Ecological Restoration*. Harvard U Press, 2022.
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Fund for Lake Michigan
Landscapes of Place
Crossroads at Big Creek

Contact landrestorationschool.org



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