A Participatory 100-Year Plan for a Wild Place in Milwaukee's Menomonee Valley

Two Questions:

1. Can participatory restoration be multiplicative, to strengthen and amplify the results (for both nature and humans) in a significant way, and
2. Can the design of an ecological restoration plan enable this?

Project Goals:

25 acres, a half-mile long, between river and railroad, in the industrial valley... invisible and inaccessible to people for decades, and ecologically mistreated for a hundred sixty years. The river's last stretch before confinement downstream by sheet pile walls, before it reaches Lake Michigan.

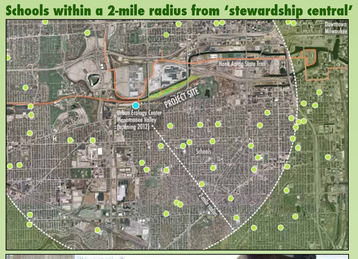
Goals for the Land: **Plan for Ecological Function**, recovering ecosystem integrity, health, and the potential for long-term sustainability. **Embody the Intrinsic Value of Nature**; maximize biodiversity of habitat and species.

Goals for People: **Create Delight**; convey an intentional, functional restoration process. **Make Wildness**; enable individual discovery. **Plan for Learning**. And **Express Sense of Place**.

Think Both.
Participatory restoration that is not transactional, but is inherent to ecological goals; and restoration pathways that are inherent to human goals.

Restoration Plan Tactics for Amplified Participatory Restoration:

Schools within a 2-mile radius from 'stewardship central'



Land Manager

So many things are enabled if the restoration is viewed as a process guided by a knowledgeable land manager rather than a capital construction project that is transactional. The land manager serves as Keeper of the Place, holds the lore of the place, and develops the Restoration Culture. The plan is developed with phasing and incremental steps, that can be shifted in time and in scope by the land manager – and assigned to contractors as well as community. The land manager smoothes the transition from active restoration to ongoing management, and that transition can occur in different zones at different times.

Trails = Habitat Transects, Work Routes

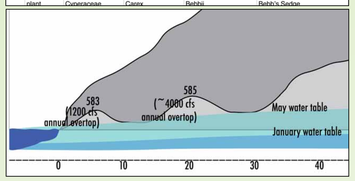
Trails are multi-purpose. They provide high-use human access that also protects habitat. At low trail density, they provide a straightforward introduction to the place and, at the same time, an experience of exploration and individual discovery. They are a primary restoration and stewardship work route. They serve as firebreaks. **Trails provide a human experience of the shifting, changing, growing restoration**. Trail routes should interact with the landscape to give the experience of habitat transect, and also magical surprises of views and perspectives.

LOW PRAIRIE / FRESH WET MEADOW COMPLEX

The low prairie / fresh wet meadow complex is essentially the 100-year flood zone in the river cuts, extending to the toe of slope. Conditions are dependent on pending details of the toe of slope stabilization measures and profile details (e.g. terraces). In any case, this zone has interaction with river flows as well as some degree of groundwater connection, and must cope with flashiness, siltation, and a significant weed seed vector along the river corridor.

In the lowest zones most exposed to flashiness and siltation, a limited number of species tolerant of the tough conditions are included. On its margins, still occasionally flooded and with roots reaching groundwater, the low meadow should smell minty and look umbelliferous, and those species are important components in the mix. There is a cultural/educational desire to keep this a grassland community, to express a large grassland complex that extends to grasslands on the adjoining mounds. Shrubs do remain an important but lesser component, and will be located to microsite conditions.

oz/ac	Family	Genus	Species	Common
WET TERRACES				
GRASS/SEDGE/RUSH				
plant	Poaceae	Calamagrostis	canadensis	Blue Joint Grass
plant	Poaceae	Glyceria	striata	Fowl Manna Grass
plant	Poaceae	Leersia	oryzoides	Rice Cut Grass
plant	Cyperaceae	Scirpus	atrovirens	Dark Green Rush
plant	Sparganiaceae	Sparganium	eurycarpum	Bur-Reed
OTHER HERBS				
seed	Asteraceae	Bidens	cernuus	Nodding Beggar-ticks
seed	Polygonaceae	Polygonum	pennsylvanicum	Pennsylvania Smartweed
seed	Polygonaceae	Polygonum	punctatum	Dotted Smartweed
SLOPES, MARGINS				
GRASS/SEDGE/RUSH				
plant	Poaceae	Bromus	ciliatus	Fringed Brome
plant	Poaceae	Calamagrostis	canadensis	Blue Joint Grass
plant	Cyperaceae	Carex	Bebbii	Bebb's Sedge

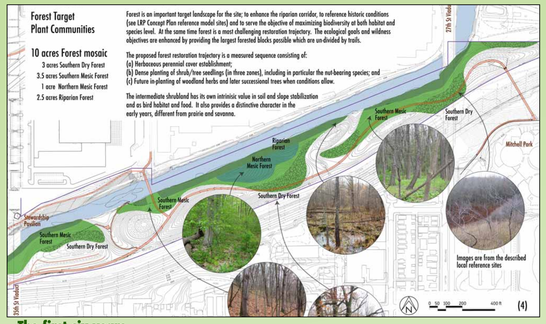


Make It Work, Make It Workable

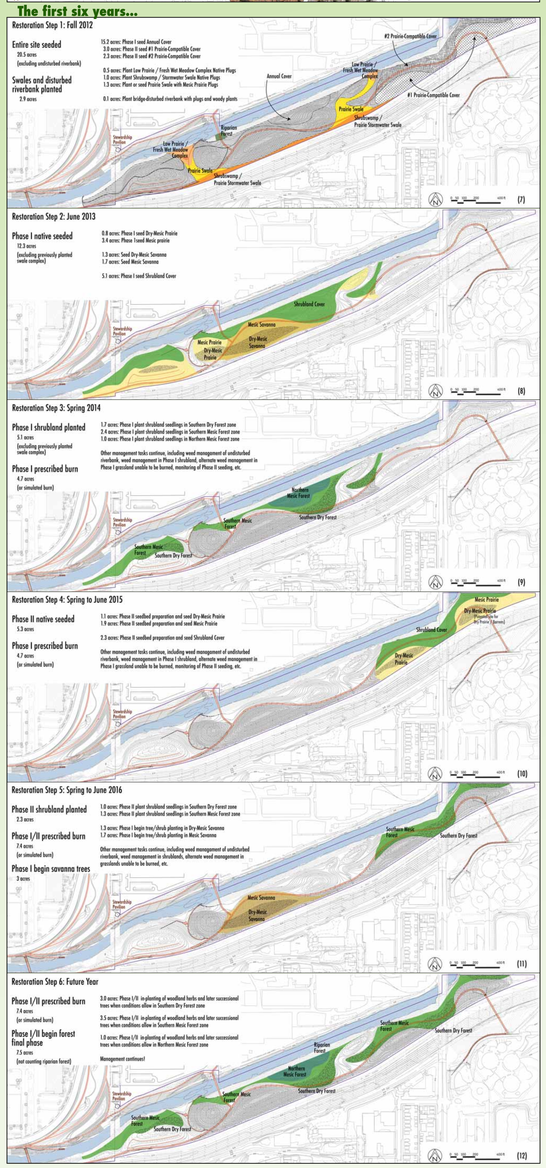
Plan steps that work well. Interventions that work well ecologically will work well for people, which will in turn work well ecologically. At the same time, allow for and value failure; make reasoned plans that could advance the field and the project, even if they are not typical. The plan takes the most intensive actions where restoration is most challenged, to ensure crossing the tipping points.
One example is a method for earthmoving that prevents fill in the top 12-18" from being compacted in the first place, and provides topographic variability. In another example, near-river areas being reworked to provide terraces will remain subject to river flashiness and weed seed import; we use a novel assemblage of native species that can tolerate conditions, and promptly plant and stabilize.

Landscape Architect In The Field

The healthy landscape has species patterning developed over a long time by ecological factors. The patterns make sense – and that sense helps compel engagement. We can jump-start the patterns, by siting the oaks in the savanna, by seeding key species in their typical patterns. The restoration design identifies the patterns to establish; the landscape architect makes it happen by marking, staking, and guiding in the field. **The landscape architect is key in this portal to the long-term restoration which resonates with the community of engaged land stewards.**



The first six years...



Shrubland Trajectory

The state of the land, in any spot and at any time, needs to convey the future to the community. Visual cues are designed into the restoration, and trajectory foreshadows the future. One key example is the use of a facilitative intermediate shrubland trajectory for the long-term forest targets (Gómez-Aparicio 2009). With shrub species distinct to the target forest type, it provides an early character that hints at that particular eventual forest and provides a very different visual and physical experience than the grassland trajectories. This is another factor that lets the land show its future, at every point in time, to enable more effective stewardship.

Relate Space / Time Scales - A Continually Legible Mosaic

Using interacting zones and phases, the design creates a space-and-time perspective of the land that can be intuitively understood, on a continuing basis, without explanation. Zones represent a combination of restoration target community and phase. Because the pace of restoration is incremental, zones remain legible on the land, and over the whole landscape, express multiple successional phases at the same time. Zones are small enough to perceive, understand, and envision one's impact on, and large enough to make ecological sense and provide a sense of landscape scale that strengthens the ability of land stewards to respond effectively.

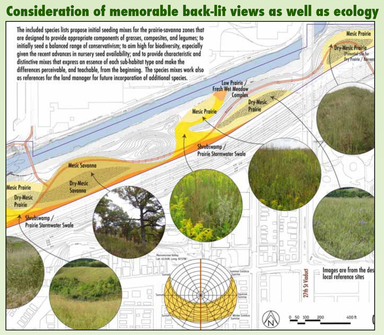
Balance Incrementalism With Critical Mass Progress

Step-by-step implementation sequences break down the plan by habitat zones, restoration trajectories, project phasing and season. **Although incrementalism is key, the plan recognizes the critical mass of activity and scale to ensure ecological restoration moves forward**. The plan is both fast and slow: shrublands are mechanically planted in future forest; land stewards plant each bur oak over time in future savanna. The plan is both big and small: broadcast seed over acres; place one salvaged rock or log to create microhabitat. The plan defines steps to be implemented by a mix of contractors and community on an ongoing basis. When contractors work with community volunteers, volunteers see leverage and reinforcement, and learn techniques. Ecology is strengthened and stewardship is strengthened.

The hand-built Stewardship 'storage shed': tools, seed, etc...

... in use with a class

Consideration of memorable back-lit views as well as ecology



Restoration Culture

This restoration plan was developed as if the community/volunteers are the restoration staff. Participatory interactions are not merely transactions; they are staff development. **The plan's details help develop the culture – the ongoing experience of being on the land while restoring**. Thus, the plan incorporates provision for the five senses, pays attention to species and patterns at trail edges, incorporates pioneer species distinct to each zone for early response, calls for study and monitoring while restoring. These factors are ever-present, from season to season, although they change in detail over time. This enables anyone to jump in at any time, with similar amplifying effect of their participation.

Plan Memorable Places

The existing narrow riparian edge provides important markers of place-recognition: people come to know that crazily twisted ash-leaved maple; the cluster of cottonwoods tall at the river's edge; the flash of sumac in the sun. In "from-scratch" zones, the plan uses aspect/sunlight and the jump-starting of species patterns to make place-markers; for example, backlit prairie species can imprint vividly. Place-markers that you come to know, where you work, increase awareness of restoration progress. **Place-markers shift your attention from the whole to the specific, and this builds observation skills and knowledge, improving stewardship responses to ecological conditions**.

Dynamic Communication

The plan provides for continual communication with the community of plan and progress, on the land and in person. Those actively engaged see the land in a new way; those unengaged are introduced to the land for the first time on an equal footing. The three-dimensional cardboard model communicates in ways a two-dimensional method cannot. It is tactile, and the eye sees from many perspectives at once. It is also dynamic - the parts are moveable. The model was used early as performance art in communicating (performing) the restoration steps. This model continues to be used, because it enables the building of shared knowledge about the restoration progress.

Next Steps:

This project is beginning on-the-ground implementation in summer 2012, and we hope it incorporates this plan. The plan was guided by the SER Framework, and over 100 years, plans for a mosaic of nine community types and 478 native species. For our firm, the practice of landscape architecture requires participatory ecology.

We think it is a helpful sign that the American Society of Landscape Architects recognized this work and those aspects of it with a 2011 Honor Award in Analysis and Planning. It is productive to draw together allied professions through a foundation of ecological function and cultural engagement.

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We are grateful to all those who have helped, especially for the collaboration of Marc White, White Ecological. For plans and references, please contact us at dancollins@landscapesofplace.com.
The Landscape Restoration Plan was completed by Landscapes of Place, LLC under contract to Menomonee Valley Partners, Inc., in 2011.