

# **Moses Creek Savanna Management Plan**

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The student chapter of the Society for Ecological Restoration (SER) at the University of Wisconsin-Stevens Point (UWSP) will initiate this management plan. Members primarily include students enrolled in the Ecosystem Restoration and Management major in the College of Natural Resources. Our mission is to educate and promote an ecologically sound and sustainable environment. Specifically, our goal is to establish and maintain ecological integrity throughout our campus and surrounding community.

Adjoining our campus, UWSP owns and maintains the Schmeekle Reserve, a 275-acre nature reserve that provides abundant recreational and educational opportunities for the community. Contiguous to Schmeekle Reserve and the UWSP campus is a city-owned 3.5-acre plot of land that is kept open to retain overflow water from nearby Moses Creek before it enters the storm sewer system. This land is located on the southeast corner of Michigan Avenue and Maria Drive (see attached map). There are several bur oaks (*Quercus macrocarpa*) as well as a few clumps of Indian grass (*Sorghastrum nutans*) and big bluestem (*Andropogon gerardii*) that persist, but most of the upland vegetation consists of exotic invasives. The site creates a hydrologic gradient that eventually forms a wetland with associated vegetation that consists of many desirable species. Without proper supervision, exotic vegetation will continue to endanger this. This unmanaged land is a wonderful opportunity for a community restoration project that is highly visible and readily accessible. In time, we propose an interpretive plant identification trail through the property that will be incorporated with the recreational trails in Schmeekle Reserve. This trail will provide instruction on a range of vegetative communities from upland prairie and savanna, to wetland, and deciduous forest. The newly established SER will provide the leadership and continuity to restore this land to a self-sustaining bur oak savanna in a partnership with UW-Madison Nutrient and Pest Management (UW-NPM), other student organizations, campus grounds staff, the city of Stevens Point, and campus community members.

## **Timeline**

Summer 2003:

- Preliminary plant collection and survey.
- Herbicide spot treatment of selected invasive and noxious weeds.
- Mowing along perimeter of property.

Fall 2003:

- Plant collection and survey continued.
- Prescribed burn implemented (in conjunction with UWSP Fire Crew and UW-NPM).
- Planting of prairie and wetland seeds.
- Plans laid out for trail placement.

Spring 2004:

- Plant collection and survey continued.
- Interpretive trail put in place.
- A showy, eye-catching “Moses Creek Savanna” sign put in at the corner of the property.
- Ecosystem monitoring program implemented.
- Evaluation of procedures.

### Steps to Prepare Site

- 1 Vegetation Inventory
- 2 Hand-pulling and/or mechanical removal of selected invasive plants
- 3 Herbicide spot-treatment of selected invasive plants
- 4 Prescribed fire
- 5 Hand sowing of prairie and wetland seed, as well shrub transplant

### Species to Introduce

Grass/grasslike species: Prairie cord grass (*Spartina pectinata*)\*, Canada blue-joint (*Calamagrostis canadensis*)\*, soft-stem bulrush (*Schoenoplectus tabernaemontani*)\*, green bulrush (*Scirpus atrovirens*)\*, sedge (*Carex* spp.)\*, Canada wild rye (*Elymus canadensis*), June grass (*Koeleria macrantha*), little bluestem (*Schizachyrium scoparium*), porcupine grass (*Stipa spartea*), prairie dropseed (*Sporobolus heterolepis*), Scribner’s panic grass (*Panicum oligosanthes*), and switchgrass (*Panicum virgatum*).

Forb species: Sunflower (*Helianthus* spp.), aster (*Aster* spp.), gray headed coneflower (*Ratibida pinnata*), pale purple coneflower (*Echinacea pallida*), butterfly weed (*Asclepias tuberosa*), sand milkweed (*Asclepias anplexicaulis*), spiderwort (*Tradescantia* spp.), alum root (*Heuchera richardsonii*), lead plant (*Amorpha canescens*), goat’s rue (*Tephrosia virginiana*), white wild indigo (*Baptisia alba*), large flowered beard-tongue (*Penstemon grandiflorus*), flowering spurge (*Euphorbia corollata*), palm-leaved coreopsis (*Coreopsis palmata*), lance-leaved coreopsis (*Coreopsis lanceolata*), black-eyed Susan (*Rudbeckia hirta*), round-headed bush clover (*Lespedeza capitata*), mountain mint (*Pycnanthemum tenuifolium*), culver’s root (*Veronicastrum virginicum*), goldenrod (*Solidago* spp.), starry false solomon’s seal (*Smilacina stellatum*), smooth solomon’s seal (*Polygonatum biflorum*), prairie smoke (*Geum triflorum*), spiked lobelia (*Lobelia spicata*), showy tick trefoil (*Desmodium canadense*), spotted joe pye weed (*Eupatorium maculatum*), wild lupine (*Lupinus perennis*), spotted horsemint (*Monarda punctata*), wild bergamont (*Monarda fistulosa*), boneset (*Eupatorium perfoliatum*)\*, golden Alexanders (*Zizia aurea*)\*, and tall meadow rue (*Thalictrum dasycarpum*)\*.

Shrub species: Gray dogwood (*Cornus racemosa*) and American hazelnut (*Corylus americana*).

\*Indication of wetland species

## **Maintenance**

Our goal is to stabilize the site to a self-sustaining natural community, much like the area may have looked pre-settlement. Fire is an integral part of a prairie ecosystem. When overgrown, indigenous plants are not given the proper growing conditions. However, we anticipate that many native prairie and wetland plants may still be located in the seedbank, waiting for a chance to germinate and/or grow to their full potential. Throughout the first 3 years, prescribed fire, herbicide treatment, and mowing will be conducted as needed. Thorough evaluation will determine this. In time, a 3-4 year burn rotation is anticipated once the community is well established.

The SER and Schmeekle Reserve will provide necessary trail maintenance.

Plant species and populations will be closely monitored by the SER and other UWSP natural resource courses, including:

- Dr. Alan Haney (Professor of Forestry) and Dr. Eric Anderson (Professor of Wildlife) will implement their new course Ecosystem Monitoring (NR 457) on the property. This procedure will begin the 2004 spring semester and provide the necessary procedures needed to detect “environmental problems” and “ecological health” on the property. This will include long-term vegetation surveys.
- Dr. Emmet Judziewicz (Assistant Professor of Biology) teaches Plant Taxonomy (Bio 342), Grass Taxonomy (Bio 345), and Natural Communities of the Midwest (Bio 304). He is planning on using the site to provide instruction to students on basic plant and ecosystem identification skills.

## **Benefits**

The proposed restoration project, “Moses Creek Savanna,” will provide education for a wide array of people in the community, including UWSP students and their families, UWSP faculty and staff, and other Stevens Point citizens who become involved in this project. It will add to the diversity of community types adjoining the college and, thereby, increase the aesthetics and recreational opportunities that Schmeekle Reserve and the Green Circle already offer.

This will provide my colleagues and me practical “in-field” skills and experience. Perhaps more importantly, we will experience the public outreach and networking that is so important in natural resource management, especially ecological restoration. UWSP’s commitment and contributions to natural resource education have been widely recognized. The proposed project will stand as yet another prominent example of our campus’s continuing effort to contribute to the education for achieving sustainable communities. “Moses Creek Savanna” will be nothing but positive to the Stevens Point Community.

## **Costs**

Seed and herbicide:

- Provided by Mr. Theodore Anchor, Ecosystem Coordinator, at the UWNPM facility in conjunction with the “Healthy Grown Potato Project” located on vegetable farms throughout the central sands region of Wisconsin. All seed to be planted will be native and locally collected by the ecosystem management and restoration portion of the potato project.

Burn Permit:

- Administered by Mr. Theodore Anchor.

Loppers, saws, tools, and trail construction materials:

- Provided by the SER, Schmeekle Reserve, and the UWSP Campus Grounds Staff.

Mowing equipment:

- We ask that this service be provided by the City of Stevens Point.

Interpretive sign:

- Provided by the SER and Schmeekle Reserve.

## **Risks**

There are a number of areas adjacent to the site that may be considered “smoke sensitive.” These are areas that could possibly cause health and safety concerns if wind were to dissipate smoke there. Two weeks before our anticipated burn dates, signs will be posted along the site to notify citizens. The Stevens Point Fire Department and nearby landowners will also be previously notified of our prescribed burn. This will allow any possible questions to be answered and will lower the chance of problems occurring. The SER, Fire Crew, and UWSP faculty advisors will compile a complete “prescribed burn plan” once the project is approved by the city. This plan will provide written documentation that specifies why, when, where, and under what conditions a controlled fire will occur.

**Figure 1.** Zoomed-in aerial photograph. Michigan Avenue and Maria Drive NW ¼ of NE ¼ of SW ¼ Sec. 28 T23N R8E, Portage County Wisconsin.



**Figure 2.** Zoomed-out aerial photograph. Michigan Avenue and Maria Drive NW ¼ of NE ¼ of SW ¼ Sec. 28 T23N R8E, Portage County Wisconsin.

