

CAMPUS NATURAL AREAS TRAIL SYSTEM USE AND STANDARDS

OUTLINE 4/18/00 (jmb)

Executive Summary

The Campus Natural Areas (CNA) are a unique, undeveloped portion of the UW-Madison campus enjoyed by a broad spectrum of the community. The current system of trails is largely unplanned and unmaintained, however, resulting in the degradation of several areas and in destructive impacts on the CNA as a whole. A standardized trail system, as outlined below, could dramatically improve the professional upkeep of the trails and better guide and educate those who use the CNA. This document creates an organizational trail classification system and provides an initial list of concerns that must be addressed before proceeding with a master system plan. Recommendations for work projects and a more detailed section on specific trail standards follow. These are intended to offer guidelines that will create a cohesive, well-managed, and accessible CNA system.

Purpose: Goals for establishing and maintaining a trail system

A well-maintained trail system is necessary for the CNA to function adequately as a recreation resource for the greater university community. At present, the trail system is a confusing network. In addition to sections that were designed for current use-patterns, the system includes paths and roads originally laid out to connect destinations that no longer exist as well as trails created by use rather than by design. In addition, severe erosion and blowdowns significantly affect use patterns and increase the environmental impact of the trails on the surrounding area, including research sites and Lake Mendota. Signage is uneven. Some portions of the system are well identified, such as the Howard Temin Lakeshore Path. Other parts of the system are un-marked. The proposed use and standards outlined in this document would provide the foundation for implementing a user-friendly, low-impact, well-maintained trail system. The primary goals of this system are to:

- Ensure safety
- Reduce impact
- Correct immediate problems
- Guide future maintenance efforts
- Increase natural, research, and aesthetic values

Proposed Classification System: Suggested organization of the trail system

The following classification system is an attempt to recognize the diversity of uses that take place in the CNA. Not all uses are appropriate for all areas. It is important to balance what people expect and need with what is ecologically sound for each particular unit of the CNA. Some modifications should be made to the current use patterns. These are reflected in the classification scheme below. The organization proposed here outlines three principal types of trails, as well as atypical sections of the CNA that require special attention:

- **MULTIPLE USE** – major routes designed for pedestrians, runners, bikers, and service vehicle access. Generally conforms to strictest ADA standards. Includes paved service roads, Lakeshore Path, and Picnic Point spine.
- **PRIMARY** – paths conforming to ADA standards, but not intended for bikes or service vehicles.

Includes 1918 Marsh Loop, Picnic Point Marsh loop, central Frautschi Point, and East Northshore Woods.

- **SECONDARY** – primitive, low-impact backcountry trails maintained for pedestrian use only. Includes Caretaker's Woods, majority of Frautschi Point, West Northshore Woods, and Eagle Heights Woods.
- **TRAILHEADS** – Major trailheads at main entrance areas for the entire CNA trail system, with available parking. Includes Picnic Point and Frautschi Point. Minor trailheads at particular points of interest or for independent systems, including 1918 Marsh Loop, Eagle Heights Woods, and Picnic Point Bathhouse (proposed Environmental Education Outpost).
- **TRAILLESS** – areas with no maintained trails due to on-going research, ecological fragility, or lack of appropriate routes. Includes Wally Bauman Woods and Bill's Woods.
- **SPECIAL CONCERN (RESTORATION)** – areas of unique ecological and/or social significance requiring special attention or restoration. Includes all mounds, historic sites, and cultural landscapes. May also involve exotic species removal, special signage, trail reroutes, or preservation attempts.

Necessary Decisions: Preliminary considerations for the CNA Committee to address

Based on the above classification scheme and on the numerous recognized concerns of the CNA, the following is a preliminary list of considerations to be addressed before final standards can be formulated and implemented:

- Bikes – allowed in CNA? Where?
- Pets – allowed in CNA? Where? Leashes required?
- Parking – need more? Need less?
- Motorized access – critical locations for emergency or maintenance vehicles?
- Cultural preservation – how best to protect mounds? Longnecker plantings?
- ADA standards – appropriate percentage of accessible trails? Other options (video)?
- Restricted areas – close any areas to the public?
- Maintenance – big equipment (easy) vs. backcountry low-impact techniques (time-consuming)
- Enforcement – how to enforce rules and restrictions, particularly in remote areas?
- Funding – possibilities and priorities...

Immediate Concerns: Potential corrective measures for existing problems requiring attention

- *Rehabilitate 1918 Marsh and loop path* – in process. Following dredging of the marsh, the final landscape design should improve the current trail conditions, ideally allowing for adequate drainage and the construction of a new section of trail parallel to the road. The entire trail should conform and be maintained to ADA accessibility standards.
- *Reroute Eagle Heights Woods trails* – severe damage to the mound and trails at the top of the hill requires a new trail intersection and a complete overhaul of current steep section (reroute or closure of this connector trail). Other improvements include rerouting steep sections of the trail parallel to the road, redesigning trailheads, and rehabilitating ALL paths.

- *Stabilize/rehab gully at Northshore Woods parking lot* – in process? Mature erosion and widespread impact has severely compromised the stability and aesthetics of this heavily-visited area. Install steps, check dams, and cribbing to prevent further erosion and focus the impact. Needs major revegetation work, including along lakeshore bluff. Could be a possible site for a suspension bridge, but should also allow for beach access.
- *Reroute (and rehab) sections of Caretaker's Woods trail* –this trail is steep, muddy, obstructed, and heavily used. Reroutes would incorporate switchbacks or steps and should follow a more logical route through the area. Bikes must be actively discouraged from using this path.
- *Close and rehab rope swing and lake access shortcuts in Northshore Woods, Wally Bauman Woods, and Frautschi Point* – shoreline erosion and intense damage to vegetation resulted from unauthorized shortcuts through sections of these woods. Problem locations should be closed and revegetated, or adapted to allow for current uses to continue.
- *Brush all trail corridors* – the vast majority of trails are too narrow for safe and/or comfortable passage. Brushing should conform to trail classification standards (described below).
- *Standardize and maintain proper tread and drainage on all trails* – routine trail construction techniques, such as water bar and drainage dip installation, culvert maintenance, and tread surface modification, will significantly halt erosion and improve footing on all trails. Rerouting of particularly bad sections may also be necessary.

Proposed Future Projects: Suggestions for further modifications and improvements

- *Convert Picnic Point bathhouse to environmental education/CNA research center* – never used but in good condition nonetheless, this building is in a prime location to serve as an educational outpost for the CNA. Classes, school groups, and researchers would benefit from enclosed meeting and storage space at the confluence of a variety of ecosystems and away from urban distractions. Modifications would necessarily include the removal of stored Physical Plant materials and general rehabilitation of the building. The installation of sky lights and composting toilets could significantly reduce the use of electricity or plumbing, as well as demonstrate model “green building” practices. Ultimately, this center would serve as both a destination for, and introduction to, the CNA trail system.
- *Remove/reduce pavement at Northshore parking lot* – in process? Areas of intense vehicle impact or should be eliminated. The Northshore Woods parking lot should be reduced to a few stalls near the road. The guardrail and rest of the parking lot should be eliminated and the area recontoured and revegetated. See *Stabilize/rehab gully*, above, for further recommendations of improvements at this site.
- *Widen corridor, correct drainage, improve tread in East Northshore Woods* – a former roadbed, this trail easily could be modified to conform to ADA standards and/or accommodate bikes. It would then serve as a primary or multiple use trail in an area otherwise comprised entirely of secondary trails.
- *Upgrade trailhead at Picnic Point* – an information kiosk and better entrance design would more clearly define this major trailhead and introduce the public to the CNA.
- *Establish trailhead at Frautschi Point* – to relieve some of the pressure on Picnic Point, Frautschi

Point also could be designed to serve multiple uses and provide a variety of hiking opportunities. Current amenities already include a parking lot, fireplace, lake access, and savanna restoration project site.

- *Construct new trail segments at Frautschi Point (and East Northshore Woods?)* – part of the establishment of a trailhead at Frautschi Point (described above), this would involve planning more loop trail options, perhaps using existing renegade pathways.
- *Clear junk from Frautschi and Second Points* – in process? Accumulated building debris and trash fills several of the gullies and sections of shoreline in these areas. Removal may require the assistance of heavy equipment. Potential historic artifacts should be recorded or preserved.
- *Design and implement coherent signage system (interpretive and directional)* – too many signs are currently inconsistent, incorrect, vandalized, or missing. A standardized system would unify and better preserve the quality of the CNA. See *TRAIL MARKING/SIGNAGE*, below.

Specific Standards: Methods and specifications

The following subsections outline in some detail the specifications for all trail projects. These are intended as guidelines that will standardize and maintain the system as a unified whole.

- WHO DOES WHAT - jurisdictions and position expectations

CNA Committee: approves research and improvement projects; designates appropriate uses; acquires funding; assures enforcement of regulations; surveys community concerns.

CNA Field Manager: supervises all CNA activities; reports to Committee.

Grounds Department.: performs bulk of maintenance work, preferably in conjunction with trails personnel and volunteers.

Students/classes/research: apply to Committee for project approval; report activities and data results to Manager.

Volunteers: the heart of the CNA – remove exotics; maintain trails; informally observe and report CNA uses and changes over time.

- TRAIL MARKING/SIGNAGE – to create a uniform system of well-defined trails

A uniform system of signs is needed to most effectively and professionally identify routes and educate visitors. While the trails themselves do not require blazes, all trail junctions and trailheads (without kiosks) should be clearly identified with engraved sign posts. These should be installed vertically and be stable enough to withstand some abuse (such as leaning). All way-finding sign posts will be dark brown and all interpretive/informative sign boards will be forest green. The bottom of sign boards should be horizontal and 42" from the ground. ADA-accessible trails will be marked as such at the appropriate trailhead with the blue wheelchair logo and a brief description of the trail. Roofed, two-sided information kiosks will be installed at major trailheads to provide a complete map of the CNA, list regulations and hours, and offer updated educational information and volunteer opportunities. Waste and recycling receptacles may also be housed here. Temporary special activity sign boards, used to designate on-going research, pesticide application, and trail projects in progress, will be black and placed at all approaches to the site. Prohibition sign boards will be white with red lettering and used where dictated by user behavior. All signs should be used sparingly, although opportunities for interpretive/education signs abound. Designs for these may be unique to their particular area but

uniform within that location.

- WINDFALLING (INSPECTION) – to inspect trails for impact and potential safety concerns

Every section of every trail should be inspected every spring. Correction of minor problems and routine maintenance can be performed immediately, while larger issues such as tread erosion and trail obstacles (blowdowns) should be reported to the Field Manager. Any renegade trails, improper uses, exotic species infestations, damaged structures, or vandalized signs should be noted and repaired as soon as possible. The person performing the inspection should record the types and locations of problems so that an efficient list of priority projects can be established.

- BRUSHING – to keep trail corridors passable by clearing brush and woody growth

An open corridor makes a trail appear safe, inviting, and well-maintained. Corridor widths should correspond to the appropriate trail classification, as follows: 3' to both sides from the center of the tread for secondary trails, 4 – 5' from center for primary trails, and at least 6' from center for multiple-use trails. The cleared height will be 8' for secondary and primary trails and 10' for multiple-use trails. Seedlings and saplings whose main stem is growing within 1' from the edge of a trail will be removed by cutting the stem within 2" of the ground. Larger trees will only be removed if they obstruct safe passage. Branches on any trees that are growing towards the trail and are within the 6 – 12' wide corridor will be removed back to a live fork or just shy of flush with the trunk. Non-woody species will generally be left untouched, except if their densities require cutting in an outward arc with a weed whip or council tool. Exotic species present in or near the corridor will be removed entirely and treated with pesticide. All cuttings will be cleaned up scattered (not piled) out of sight of the trail. Ideally, every trail will be brushed at least once every three years.

- TREAD – to maintain a tread surface that is safe for users and allows for drainage

The surface of a trail dictates its uses and maintenance requirements. Wherever possible, CNA trails should be constructed of local material. Organic accumulations should be removed to expose the mineral soil beneath. The addition of wood chips may be necessary to help deter bikes or define a pathway. Gravel should be avoided except for multiple-use trails and primary trails where needed for drainage (1918 Marsh). Ideally, trails will follow natural contours and avoid overly-steep sections. If necessary, however, steps or cribbing may be installed to allow for greater elevation gains. The actual tread width should be maintained as 18" for secondary trails, 36 - 48" for primary trails, and at least 96" for multiple-use trails. *CHECK ADA*. All tread surfaces should be inspected at least once a year.

- DRAINAGE/EROSION CONTROL – to control and prevent erosion while allowing for drainage

Improper drainage is the primary cause of all trail problems, as well as the related degradation of the area in the vicinity. Accommodating runoff and preventing erosion should therefore be high priorities for any project. Materials must be approved by the CNA Committee beforehand, but may include local rock and timber (preferably hardwoods or cedar) for water bars, check dams, stepping stones or cribbing. Drainage dips may be installed in flatter terrain or where use is minimal. Culverts may be necessary where runoff is extreme or impact is high. Structures should be placed at intervals and angles appropriate to the grade and conditions of the site. Any outside contractors should be encouraged to use techniques appropriate to a natural setting rather than intrusive or industrial designs. On-going research in the area should be considered before altering any nearby trail, since

employing particular drainage techniques impacts the areas both up and downstream of the site. Priorities will be determined by the CNA Committee if necessary, but should generally be given to any existing, particularly long-term research. All structures must be maintained yearly, including visual inspection, clearing of debris, and any needed repairs when first noticed.

- REROUTES/CLOSURE – to relocate or permanently close problem sections of trail

Reroutes may be necessary where trails are severely compromised due to erosion, unavoidable water problems, safety concerns, habitat or research site protection, improper use, or immovable obstacles. Reroutes should be discouraged in fragile habitats and where continued use is unlikely to be eliminated – trail improvement measures should be attempted instead. In areas where trails are no longer necessary, over-abundant, or seem to encourage continued improper use, sections should be closed entirely. Following the closing of a section of trail, the impacted area must be rehabilitated along its entire length rather than merely baracaded at each end. This may involve recontouring the terrain, decompacting soil, installing check dams, revegetating the site, and firmly planting obstacles such as fallen trees, stumps, or rocks. All closed areas should be monitored for effectiveness, both in discouraging use and in encouraging rehabilitation of the site.

- SAFETY – to ensure safe working conditions and to plan ahead for possible emergencies

All trail crew will wear boots, long pants, and hard hats. All on-going project areas will be marked at every approach to the site and/or closed to the public until completed. Appropriate tool use and safety will be reviewed before beginning work. All crews will have a first aid kit on-site, with at least one member of the crew certified in at least CPR. The nearest telephone and vehicle access points will be determined and outlined in an emergency response plan prior to beginning any project.

Appendices: Maps, contact information, resources, timetable

Priority Trail Projects April 00

Lakefront path, biocore prairie to Frautschi:

- *Reroute ~30m section at biocore entrance [6 volunteers, 8 hours]
- *Reroute/rehab lake overlook area [3 volunteers, 3 hours]
- Reroute sharp angle sections [6 volunteers, 10 hours]
- Reroute section parallel to gully [4 volunteers, 6 hours]
- Install bridge at gully outlet to lake [4 volunteers, 6 hours]
- Reroute? or level section on berm [2 volunteers, 3 hours]
- Waterbars/tread/brushing throughout [6 volunteers, 5 hours]

Crew hours needed: 217

Eagle Heights Woods:

- Reroute and reveg steep eroded section near mound [6 volunteers, 16 hours]
- Reroute/install steps on trail parallel to road [6 volunteers, 24+ hours]
- Brushing (at least) throughout [6 volunteers, 8 hours]

Crew hours needed: 288

*Lakefront path, biocore prairie to Picnic Point:

- Reroute entrance at biocore [3 volunteers, 5 hours]
- Close shortcuts [4 volunteers, 4 hours]
- Reroute section near blowdown [3 volunteers, 3 hours]
- Reroute/install steps at PP end [4 volunteers, 6 hours]
- Waterbars/tread/brushing throughout [6 volunteers, 2 hours]

Crew hours needed: 86

Northshore Woods, Frautschi to parking lot:

- Maintain trail from Frautschi lot down to path [4 volunteers, 2 hours]
- Close shortcuts [4 volunteers, 5 hours]
- Clean culverts [4 volunteers, 3 hours]
- Waterbars at eroded section (reroute?) [3 volunteers, 4 hours]
- Create lake overlooks where needed [6 volunteers, 5 hours]
- Brushing, some tread throughout [6 volunteers, 12 hours]

Crew hours needed: 154

Northshore Woods, parking lot to Wally Bauman:

- Brushing throughout [6 volunteers, 10 hours]
- Rehab lakeside problems [6 volunteers, 8 hours]
- Close road from Eagle Heights down to lake [8 volunteers, 4 hours]
- Maintain angle path from Eagle Heights to path instead [4 volunteers, 4 hours]
- Redesign trailhead-trail crossing at road [6 volunteers, 8? hours]

Crew hours needed: 204

Frautsch Point area:

- Rehab loop to fireplace point [6 volunteers, 3 hours]
- Remove fireplace? [3 volunteers, 3 hours]
- Create loop on NW point [3 volunteers, 5 hours]
- Build fence at lakeshore erosion site [3 volunteers, 3 hours]
- Create trail to and from giant oak [6 volunteers, 12 hours]
- New trail through Second Point Woods/to field? [6 volunteers, 12? hours]
- Reveg soon-to-be-former road turn-arounds... [6 volunteers, 5 hours]

Crew hours needed: 225