



PROHORT

Vol. 14, No. 4

Autumn, 1996

Special Symposium:

THE ECOLOGY & CONSERVATION OF THE SOUTH PUGET SOUND PRAIRIE LANDSCAPE

Thursday, November 7, 9 a.m. to 5 p.m.
NHS Hall, CUH-Union Bay
\$45, includes lunch and proceedings; pre-registration required

This symposium has been planned and sponsored by The Nature Conservancy, U.S. Army/Fort Lewis, and University of Washington Center for Urban Horticulture.

PROGRAM OVERVIEW:

The south Puget Sound prairie landscape is one of the most endangered ecosystems in the state of Washington, with less than 10% of the presettlement habitat remaining. The prairie landscape contains the only two federally listed endangered plants in the state, a federally listed endangered pocket gopher, and a suite of prairie dependent butterflies, including the Mardon Skipper, a federal candidate for listing. The landscape is threatened by continuing development, invasive plants such as Scotch broom, and impaired ecological processes due to incompatible human uses on surviving prairies.

This symposium brings together the current knowledge concerning the ecology and conservation of the prairies, and will serve as a foundation for on-going and future conservation and restoration efforts.

PRESENTATION TOPICS:

Over 30 presentations will be offered at this symposium, on a range of topics in five key areas. General sessions are: **Historic Conditions: Geology, Vegetation and Land-Use; Protection and Conservation Techniques.** Concurrent sessions include: **Rare Species; Vegetation Communities and Pest Plants; Restoration Techniques.** Presenters will include representatives from The Nature Conservancy,

University of Washington (CUH, Biology Department, and Botany Department), State Department of Natural Resources, State Department of Fish & Wildlife, State Natural Heritage Program, Ft. Lewis Environmental Forestry and Planning, and Thurston County Planning.

DESIGN SOLUTIONS: SOIL DRAINAGE PROBLEMS & OPPORTUNITIES

Tuesday, October 22
8:30 a.m. to Noon
Graham Visitors Center, WPA
\$17; pre-registration required

PROGRAM OVERVIEW & PRESENTATIONS:

Surface and sub-surface water drainage issues greatly impact a landscape designer's approach to a project. Can you "go with the flow" and select plants that survive in the conditions on site? Or are there other concerns regarding structures and hardscape features on site that require altering existing drainage patterns? What effect does the soil have?

CARL KUHN, Professional Civil Engineer, Kuhn Associates, provides a brief review of soil drainage concerns and then shares case studies of a variety of projects, detailing engineering solutions selected and results obtained. Carl also helped design the drainage system in place on Azalea Way in the Arboretum, and a portion of this program will include an inspection of that site and discussion of the design and engineering decisions selected and results obtained.

ROBERT FOLEY, Principle of Robert Foley & Associates, Inc., and Lecturer, UW Department of Landscape Architecture, discusses ways to work with existing hydrologic conditions. After briefly describing some of the man made causes of poor drainage and how to avoid them, he will present case studies that demonstrate a positive response to "drainage problems," resulting in attractive amenities that respect natural systems.

OTHER EDUCATIONAL OPPORTUNITIES

EDMONDS COMMUNITY COLLEGE AUTUMN COURSES: Intro. to Horticulture; Tools, Equipment and Safety; Broadleaf Identification; Landscape Appreciation; Landscape Studies; Landscape Materials; Greenhouse Studies; Native Plants/Landscape; Design Presentation; Bulbs & Bulb Gardening; Landscape Business; Turf Management; Turf Soils; Sprinkler Installation & Repair; Pest Management Principles; Plant Insects; Landscape Materials; Japanese Garden Arts; Plant Propagation; Ornamental Grasses; Floral Design. For registration information, call (206) 640-1739.

LAKE WASHINGTON TECHNICAL COLLEGE AUTUMN COURSES: Weed Identification & Management; Fall Plant Identification; Irrigation Design & Management. Call (206) 828-5600 for more information.

SOUTH SEATTLE COMMUNITY COLLEGE AUTUMN COURSES: Landscape Industry; Greenhouse Operations; Broadleaf Plant Identification; Landscape Design I; Maintenance Estimating & Bidding; Principles of Horticulture Science I; Field Applications; Deciduous Plants for the Pacific Northwest; Intro. To Drainage & Irrigation Systems; Urban Forestry; Urban Tree Management; Small Business Management; Small Engine Repair; Landscape Design IV; CAD for Landscaping; Landscape Construction Project. To register, call (206) 764-5349.

WASHINGTON STATE NURSERY & LANDSCAPE ASSOCIATION FALL SEMINARS: Fall Plant Identification (9/19, 9/28, 10/5, Kirkland); Water Gardening Basics (10/2, Tacoma & 11/6, Everett); Taking the WCN/WCL Test (10/8, Olympia); Noxious Weeds (10/16, Everett & 11/14, Tacoma); Poinsettia Production & Landscape Soil Preparation (10/24, Seattle); Protecting Your Business By Knowing Your Legal Rights (11/7, Seattle); Landscape Plant Problems (11/12, Seattle); Basic Landscape Irrigation Design (11/19-11/20, Seattle). And don't forget that WSNLA Certification Exams will be held October 22 in Olympia. For information, call (206) 863-4482.

ASSOCIATION FOR WOMEN IN LANDSCAPING FALL EVENTS: Annual Conference, "Art & Spirit in the Garden", October 26. Call 481-1561 for information.

PROHORT BOOKSHELF

by Valerie Easton, CUH Horticultural Librarian

Hours are Mondays, 9 a.m. to 7:45 p.m., Tuesdays through Fridays, 9 a.m. to 5 p.m., except holidays. Phone: (206) 685-8033 for further information. Miller Library (and CUH) will be closed November 11, 28, 29 and December 25.

New titles of interest:

Environmental Education in Botanic Gardens: Guidelines for Developing Individual Strategies, by Julia Willison and Jane Greene. Richmond, UK: Botanic Gardens Conservation International, 1994.

The Garden Design Sourcebook: The Essential Guide to Garden Materials and Structures, by David Stevens. London: Conran Octopus, 1995.

Greer's Guidebook to Available Rhododendrons: Species & Hybrids, by Harold E. Greer. Revised 3rd ed. Eugene: Offshoot Publications, 1996.

Guide to Commercial Nomenclature. Chicago: American Nurseryman Publishing, 1996.

The New Flower Arranger: Contemporary Approaches to Floral Design, by Fiona Barnett, Roger Egericks, and Debbie Patterson. New York: Sterling, 1995.

North American Landscape Trees, by Arthur Lee Jacobson. Berkeley: Ten Speed Press, 1996.

Pacific Northwest Plant Disease Control Handbook, by Jay W. Psechidt. Corvallis, OR: Extension Services of Oregon State University, Washington State University, and the University of Idaho, 1996.

The Plant Care Manual: The Essential Guide to Caring for and Rejuvenating Over 300 Plants, by Stefan T. Buczaeki. New York: Crown Publishers, 1993.

Practical Tree Management: An Arborists Handbook, by Trevor Lawrence, Paul Norquay, and Karl Liffman. Melbourne: Inkata Press, 1993.

Report of the Washington State Noxious Weed Control Board with Recommendations for the Continued Best Use of State Funds for Noxious Weed Control, by Laurie L. Penders and Washington State Noxious Weed Control Board. Kent, WA: The Board, 1995.

Slope Stabilization and Erosion Control, A Bioengineering Approach, by R.P.C. Morgan and R. Jane Rickson. London: E. & F. N. Spon, 1995.

A Thousand Mountains, A Million Hills: Creating the Rock Work of Japanese Gardens, by David H. Engel. Tokyo: Shufunotomo Publications; Kodansha, 1995.

ProHort Seminars are planned and conducted cooperatively by the UW Center for Urban Horticulture and the WSU Cooperative Extension-King County Horticulture Program.

ABSTRACT THINKING: Current Research Abstracts of Interest for Your Review

Compiled by Dave Stockdale

Abstracts reprinted here were selected to represent the broad variety of topics of interest to our readership and are not necessarily intended as endorsements of the research or researchers cited. We strongly suggest that you read the complete articles to fully evaluate the merits of the information provided relative to possible applications to your work situation. All journals cited are available at the Miller Library at CUH.

Plant Water Loss in a Shaded Environment: A Pilot Study

Laurence R. Costello, Donald Thomas, and Jodee DeVries. *Journal of Arboriculture* 22(2): 106-108. March, 1996.

Microclimates have been found to directly influence water loss from landscape plants. Whitlow and Bassuk noted significant interactions between urban microclimates and water loss from street trees in New York City. Kjelgren and Clark found that growth and physiological responses of sweetgum trees were linked to microclimate at 3 diverse locations in Seattle, Washington. They reported a 50% increase in pan evaporation in a paved site relative to a park or an "urban canyon" site. Zajicek and Heilman reported an increase in water use (approximately 20-30%) from crape myrtle plants in mulched plots compared to bare soil or turf plots. This finding was attributed to the higher surface temperatures of the mulch

relative to that of the other surfaces. Similarly, water use has been found to be highest for shrubs adjacent to east- and west-facing walls due to radiation emitted from building walls. Similar to plant water loss increases that have been found to occur in high evaporative microclimates, water loss reductions may occur in low evaporative microclimates, such as a shaded environment. The objectives of this pilot study were twofold: 1) to provide an indication of the magnitude of water loss difference between plants in a shaded environment and the same species in a sunny environment, and 2) to provide direction for future investigations. Our general purpose was to provide landscape managers with some basis for making water budget adjustments appropriate for plantings that occur in shaded environments.

Perceived Stress Reduction in Urban Public Gardens

Ellen Sullivan Bennett and James E. Swasey. *HortTechnology* 6(2): 125-128. April-June, 1996.

The negative effects of the urban situation on human well-being are well documented, contribute to stress, weaken coping skills, and evoke a negative self-appraisal from residents continually surrounded by bleak settings. The following research suggests that urban residents may visit public gardens as a means of coping with the stresses of city life. Results of a survey of urban visitors to two urban public gardens indicate that stress reduction is an important reason for visiting the gardens. The research also indicates a trend of reduced levels of self-perceived stress after a garden visit.

Interior Plants May Improve Worker Productivity and Reduce Stress in a Windowless Environment

Virginia L. Lohr, Caroline H. Pearson-Mims, and Georgia K. Goodwin. *Journal of Environmental Horticulture*: 14(2): 97-100. June, 1996.

This study documents some of the benefits of adding plants to a windowless work place—a college computer lab. Participants' blood pressure and emotions were monitored while completing a simple, timed computer task in the presence or absence of plants. When plants were added to this interior space, the participants were more productive (12% quicker reaction time on the computer task) and less stressed (systolic blood pressure readings lowered by one to four units). Immediately after completing the task, participants in the room with plants present reported feeling more attentive (an increase of 0.5 on a self-reported scale from one to five) than people in the room with no plants.

PROHORT Seminar Registration

<input type="checkbox"/> THE ECOLOGY & CONSERVATION OF THE SOUTH PUGET SOUND PRAIRIE LANDSCAPE	\$45.00
<input type="checkbox"/> DESIGN SOLUTIONS: SOIL DRAINAGE	\$17.00

Yes, I require a vegetarian meal (where applicable) TOTAL: \$_____

Group Rates: five or more persons, less 20%. Group registrations must be accompanied by ONE check or purchase order at least one week in advance.

Portion of fees may cover refreshments and speaker expense.

Make checks payable to the University of Washington; receipts available at the door. Mail payment and registration to: Center for Urban Horticulture/ProHort, University of Washington, Box 354115, Seattle, WA 98195-4115. For information, call 685-8033.

Name Company Name

Address

City State Zip

Day Phone Evening Phone

To request disability accommodation contact the Office of the ADA Coordinator, at least ten days in advance of an event: 543-6450 (voice) 543-6452 (TDD); 685-3885 (FAX); access@u.washington.edu (email)

PLANT PROFILE

by Elida Machado, CUH Public Education Intern

Finding the right plants for urban landscapes can be a challenge. The unique conditions often present in urban environments are sometimes detrimental to plants that might otherwise be suitable for a particular region. Knowing which plants have already proven successful in urban settings is valuable when selecting or recommending materials.

The following plants are just a few of those cited in the notebook *Woody Northwestern Plants For Urban Landscapes: Ornament and Restoration In the Native Idiom*, compiled in 1994 by CUH graduate students enrolled in UHF 531. They recommended these plants because of their ability to withstand diverse conditions while maintaining their beauty. This makes these plants excellent choices for the urban environment.

Although it is native to coastal California and Oregon, *Lithocarpus densiflorus* (Tan Oak) has proven itself hardy in the Seattle area. With its slender, bending trunk, broad crown and horizontal limbs, this evergreen tree is a slow grower reaching 25 to 30 feet in the garden. Ornamental features include chestnut-like flowers blooming from June through August and oak-like acorns in the fall. Its thick red-brown bark, which is broken into furrowed squares, is another interesting feature. It grows best on humid, moist, slopes of seaward coastal ranges, but does well in a variety of soils, preferring loam, sandy, or gravel soils. Best suited for sun or partial shade, it will withstand some drought once established.

Noted as being a handsome specimen tree, hopefully the Tan Oak will get more attention for its ornamental qualities and positive urban adaptations.

Myrica californica (California Wax Myrtle, Bayberry) is an evergreen shrub 15 feet tall which has found its niche as an effective screen, hedge, and specimen shrub. Its native range, which spans from coastal Washington all the way to Southern California, demonstrates its adaptability to diverse conditions. Tolerant of drought, sun or shade, and poorly drained soils, the California Wax Myrtle is a dependable performer in the most adverse of conditions. It prefers sterile sandy soil with a slightly acid pH. It has a neat habit with very clean looking dark green evergreen foliage. The spring-blooming flowers are not showy, but the purple, globe shaped fruits which appear in the fall, prove to be quite an attraction for the birds.

A conifer that's gaining more popularity in the urban landscape is *Tsuga mertensiana* (Mountain Hemlock). It is a slow growing tree with much variation in size. Dwarf forms reach 6 to 8 feet tall, while taller forms can reach 100 feet. Mountain Hemlock looks more like fir or spruce than other hemlock's due to its dense, compact, bluish gray-green foliage and irregular branching patterns. In urban settings it prefers full sun in lowland gardens if the soil is not too dry. It is tolerant of shade and extreme temperatures and thrives in well drained coarse soil with plenty of organic matter. Although it isn't a highly pollution tolerant species, it appears to perform well in the Seattle area. The best use for Mountain Hemlock in the landscape is as a single specimen or container tree.

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