



LAWN CONVERSION TO NATIVE ALTERNATIVES



Mary Logalbo, Urban Conservationist



Overview

- Why?
- Site Planning
- Design Considerations
- Site Prep
- Native Groundcovers
- Native Turf Alternatives
- Meadowscaping
- Maintenance



A close-up photograph of a field of yellow Lasthenia goldfields flowers. A single bee is perched on the center of one flower in the foreground, which is in sharp focus. The background is filled with many other similar flowers, some in focus and some blurred, creating a sense of a vast field. The lighting is bright, suggesting a sunny day.

Why Convert Your Lawn?

- **Wildlife & Biodiversity**
- **Water & Air Quality**
- **Water Conservation**
- **Natural Heritage**
- **Lower Maintenance Options**

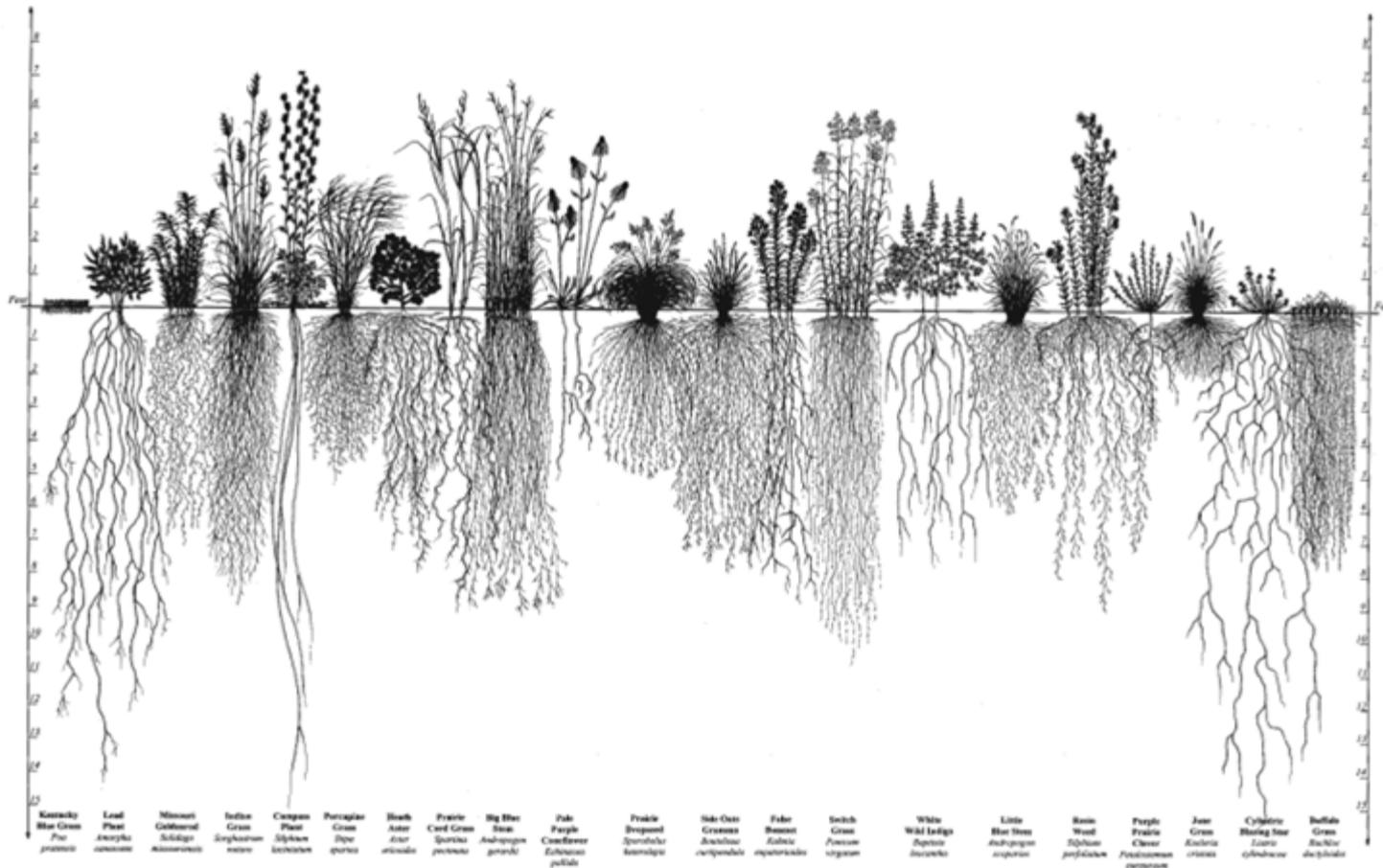
Adrena on *Lasthenia goldfields*.
Photo Credit: Mace Vaughn,
Xerces Society

A lush forest scene with moss-covered tree trunks and ferns. The image shows a dense forest with large, moss-covered tree trunks in the foreground and a thick canopy of green leaves and ferns in the background. Sunlight filters through the trees, creating a dappled light effect on the forest floor.

Why go native?

"Humanity, for its own sake, must attend to the forgotten pollinators and their countless dependent plant species."
-- E. O. Wilson, insect ecologist and author

Stormwater Management & Carbon Sequestration

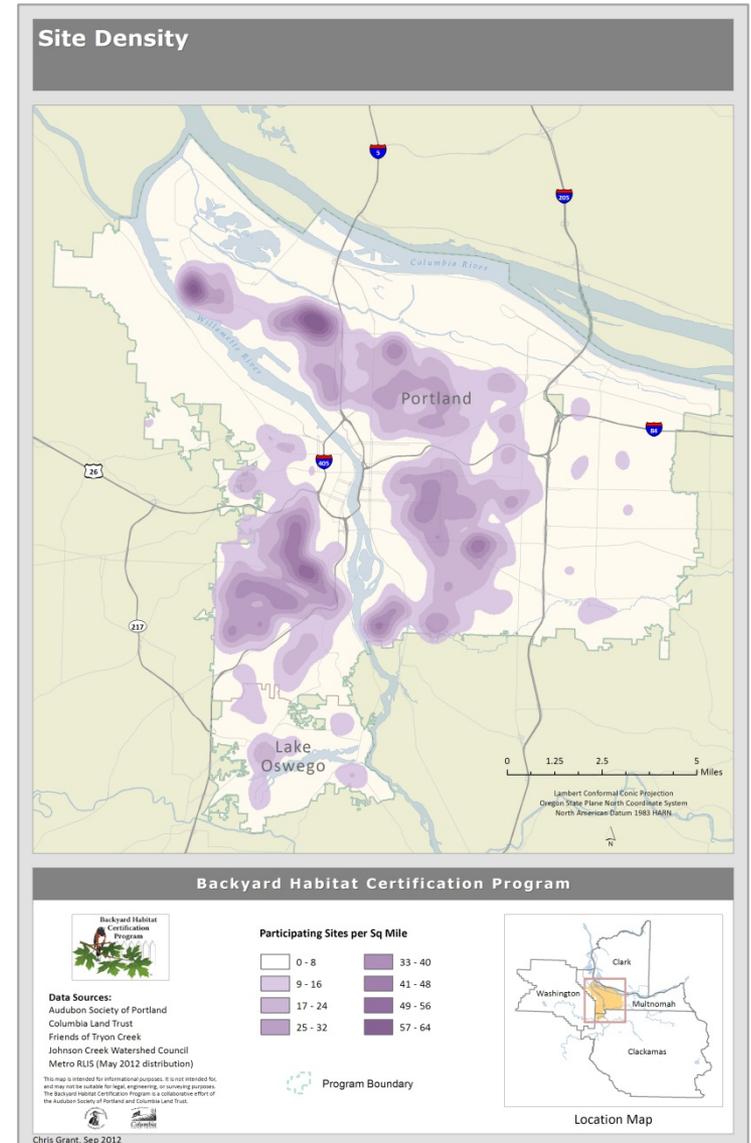


Credit: Natural Resources Conservation Service (NRCS) Illinois Native Plant Guide: Root Systems of Prairie Plants.

Habitat Connectivity



Photo Credit: Marissa Aurora Dorais
 Portland Parks & Recreation
 Willamette River Stewardship Coordinator | City Nature



Site Planning

- Project Goals
 - Aesthetics
 - Lower Maintenance
 - Wildlife Habitat
 - Stormwater Treatment
- Project Type
 - Low Lying Groundcover
 - Native Grass Alternative
 - Meadowscape



Wilson Meadow, *Danthonia californica* (Oatgrass) & *Ranunculus occidentalis* (W. Buttercup)

Site Planning

- Resources & Constraints
 - Labor
 - Tools
 - Materials
 - Budget
- Inventory & Analyze Site
 - Soil Type & Moisture
 - Slope
 - Shade
 - Weeds
 - Pressures
 - Human Needs



Project Design

- Choose appropriate & available plants

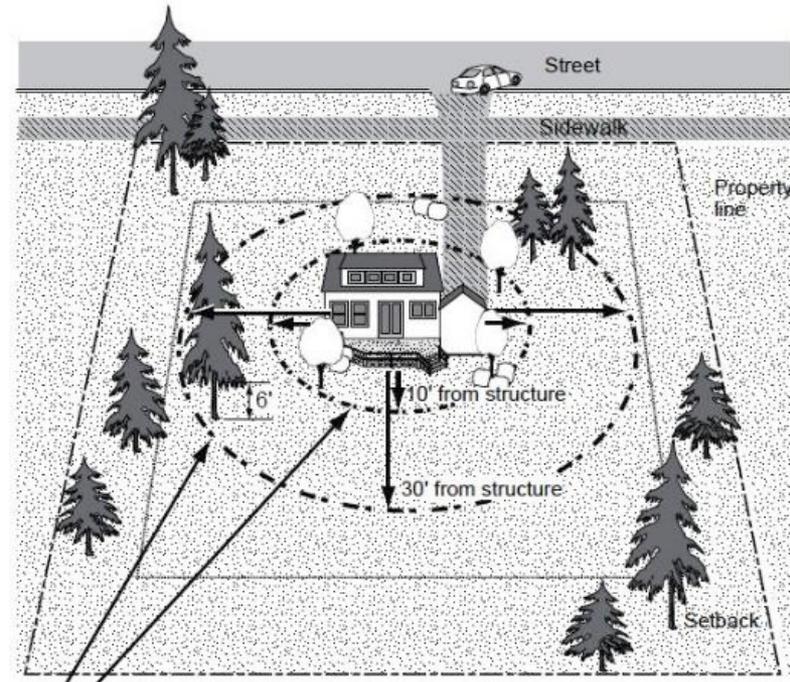
http://www.wmswcd.org/public/file/Portland_Meadow_Plants.pdf

- Small palate for small place
- Strategically locate “anchor plants”
- Late and early bloomers
- Clump species
- Careful of bullies!
- Consider clear dividers of plant groupings including an access path for maintenance, water feature & firebreak



Fire resistance consideration

- Use plants with high moisture content (deciduous) nearest the home.
- Fire-resistant plants (from OSU, firefree.org):
 - Shrubs include: Oregon grape, serviceberry, salal, mock orange, rhododendron and nootka rose.
 - Perennial choices include yarrow, iris and geranium.
 - Groundcovers include stonecrop, strawberry and kinnikinnick.



<http://www.portlandoregon.gov/fire>

Clumps & Anchors



Photo: mulysa.org

Heavy Use Areas



• Photo: mulysa.org

Parking strips



Entertainment space - clumps & setbacks



Photo: mulysa.org

Site Preparation



Photo: <http://thinkbluemarin.wordpress.com/>

- Minimum: spring – fall prep
- Organic:
 - Sod cutter + hand weeding + top dressing of “native” soil
 - Sheet mulching + hand weeding + top dressing of “native” soil
 - Solarizing + hand weeding + top dressing of “native” soil
 - ~~Scalping + hand weeding alone not enough~~
 - ~~Flaming and/or Organic Herbicides won't kill grass roots~~
- Spring spray + early fall spray + hand weeding

Site Preparation



- What type of soil are you starting with?

- Soil Restoration:

<http://greengirlpdx.com/JOBBS/FHHOA/CS3RestoreDisturbedSoils.pdf>



Figure 3 Lawn or landscape garden, the same generalized cross section of loosened and amended soils apply.



Native Groundcovers

GROUNDCOVER	GROWING CONDITIONS
beach strawberry (<i>Fragaria chiloensis</i>)	sun, part shade; dry to moderate moisture
bunchberry, Canadian dogwood (<i>Cornus canadensis</i>)	partial to full shade; humus-rich soil
coltsfoot (<i>Petasites palmatus</i>)	moist shade
false lily-of-the-valley (<i>Maianthemum dilatatum</i>)	full to partial shade; moist soil
fringe cup (<i>Tellima grandiflora</i>)	partial shade; moist soil
inside-out flower (<i>Vancouveria hexandra</i>)	sun to shade
kinnikinnick (<i>Arctostaphylos uva-ursi</i>)	sun, some shade; well drained soil
low Oregon grape (<i>Mahonia nervosa</i>)	prefers shade; can tolerate sun
Fern species (Sword hardiest) (<i>Polystichum munitum</i>)	partial shade to full shade dry - moist
slough sedge (<i>Carex obnupta</i>)	moist shade
twinflower (<i>Linnaea borealis</i>)	partial to full shade
vanilla leaf (<i>Achlys triphylla</i>)	partial sun; dry to moist soil
wood sorrel (<i>Oxalis oregana</i>)	wet or dry shade



Photo: <http://tryonfarm.org/>



Graphic adapted from King County's "Ivy Alternatives" & Beach Strawberry photo from King County.

© Greg Rabourn

Native Groundcovers





Native Turf Alternatives

- *Danthonia californica* (California oatgrass)
 - Plant grass on mesic/xeric soils in full sun; self sowing after establishment

Turf alternatives...

- *Carex tumulicola* (foothill sedge)
- Plant this deciduous (and rhizomatous) sedge on mesic soils in full sun

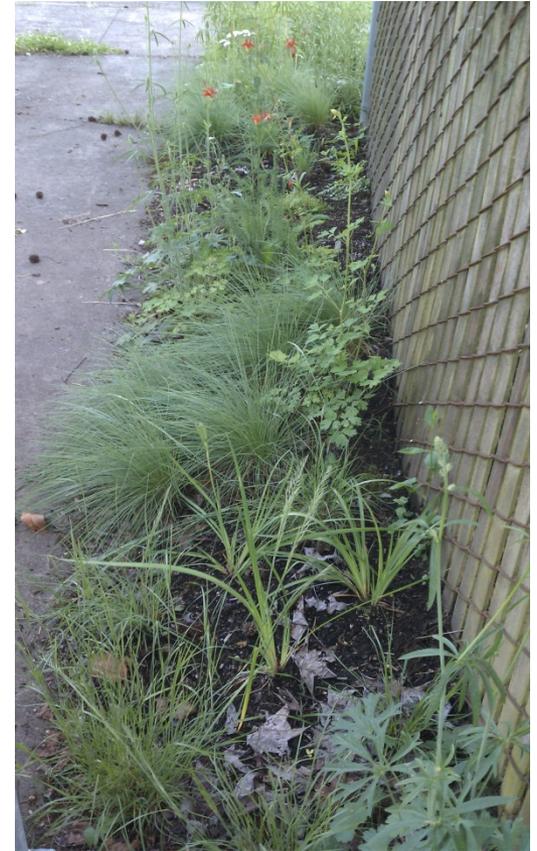
Turf alternatives

- *Deschampsia cespitosa* (*D. caespitosa*, tufted hairgrass)
- A narrow leaved bunch grass mesic/xeric soils in sun – part shade. Self sowing after establishment



Plant form: Deschampsia
By Chip Elliot. Public Domain
contact: chinwukashi@gmail.com

Portland Urban Meadowscaping Pilot





Meadowscaping Establishment Strategies

- Start w/ plugs (perennial forbs & bunchgrasses) – strategically seed in annuals
- Clump like species (3-5)
- ~2 foot spacing
- Scratch in seed in fall
- Fencing?
- Start w/1:5 ratio of grasses:forbs



Cover 3 Bloom Times for Pollinators

Flower Species - common name (<i>scientific name</i>)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
western buttercup (<i>Ranunculus occidentalis</i>)			yellow					
shooting star (<i>Dodecatheon hendersonii</i>)				pink				
western trillium (<i>Trillium ovatum</i>)				white to purple				
meadow checkerbloom (<i>Sidalcea campestris</i>)				light pink				
woodland strawberry (<i>Fragaria vesca ssp. Brachteata</i>)				white to pink				
Oregon iris (<i>Iris tenax</i>)				purple				
camas (<i>Camassia leichtlinii</i> or <i>quamash</i>)				blue				
western columbine (<i>Aquilegia formosa</i>)				red				
fringecup (<i>Tellima grandiflora</i>)				greenish-white to reddish				
varileaf phacelia (<i>Phacelia heterophylla</i>)					white			
lance selfheal (<i>Prunella vulgaris</i>)						purple		
slender cinquefoil (<i>Potentilla gracilis</i>)						yellow		
harvest brodiaea (<i>Brodiaea elegans</i>)						purple		
salebrosa goldenrod (<i>Solidago canadensis</i> var. <i>salebrosa</i>)						yellow		
Bunchgrass Species - common name (<i>scientific name</i>)	Height at maturity (ft)							
blue wildrye (<i>Elymus glaucus</i>)	3							
California brome (<i>Bromus carinatus</i>)	3							
tufted hairgrass (<i>Deschampsia caespitosa</i>)	3							
Roemer's fescue (<i>Festuca roemerii</i>)	2							
California fescue (<i>Festuca californica</i>)	3							

Succession & Maintenance

- Disturbance (annual mow) needed
- “Bullies” will take over, but they have a place – plan to “weed”
- Many annuals will self sow
- Bare spots will invite weeds
- Avoid disturbance during primary nesting seasons...April 15th - September



A Dynamic Landscape



Danthonia californica



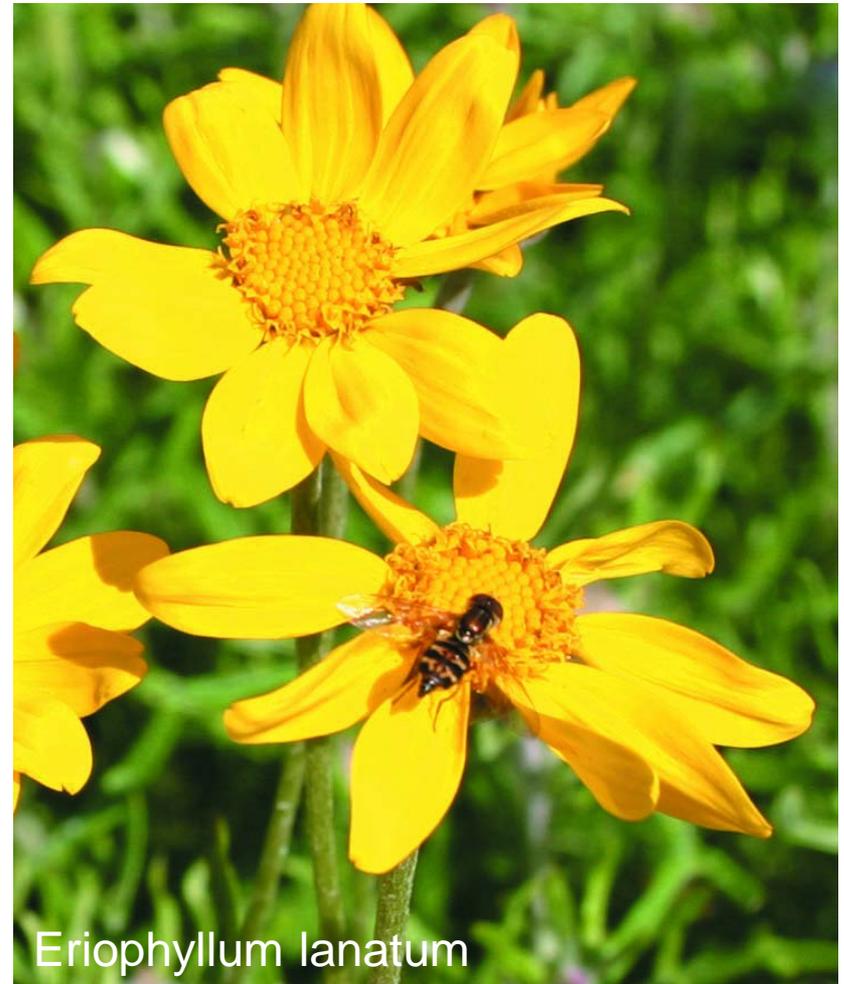
Ranunculus occidentalis & Camassia

Favorite “Bullies”



Lupinus spp.

Photos: heritageseedlings.com



Eriophyllum lanatum

Other Lovely “Bullies”



Achillea millefolium



Solidago canadensis var. *salebrosa*

Choose the right heights for sites...



Photo: EMSWCD, *Aster subspicatus*

Photo: Kammy Kern-Korot, *Sidelcea campestris*

Outstanding Annuals



Photo: Erica Stokes, *Plectritis congesta*



Photo: Mary Bushman, *Gilia capitata*

Native and non-natives co-mingled



Photo credit: Eric Mader, Xerces Society



Challenges & Resources

- Public perception
- Tall grass ordinance
- Maintenance/weeds
- Plant costs/availability
- Grass ID



Pollinator Habitat

This area has been planted with a range of flowering native plants to provide good quality habitat for native bees and other pollinators.

For information about creating habitat for pollinators, please visit:

www.xerces.org

www.wmswcd.org



THE XERCES SOCIETY
FOR INVERTEBRATE CONSERVATION

The Xerces Society's Pollinator Conservation Program is supported by:



THE DUDLEY FOUNDATION

Disney

Online Informational Resources

- **The Oregon Flora Project** www.oregonflora.org
- **Washington Flora**
www.washington.edu/burkemuseum/collections/herbarium/index.php
- **Urbanizing Flora of Portland, Oregon, 1806-2008.** NPSO Occasional Paper 3, John A. Christy, Angela Kimpo, Vernon Marttala, Philip K. Gaddis, and Nancy L. Christy (2009)
- **Portland Plant List**
<http://www.portlandonline.com/auditor/index.cfm?&a=322280&c=34460>
- **King County Native Plant Guide**
<https://green2.kingcounty.gov/gonative/index.aspx>

Native Planting Resources

- Native Plant Nurseries www.plantnative.org/nd_or.htm
- Kruckeberg, A.R. 1996. Gardening with native plants of the Pacific Northwest. Second edition, revised and enlarged. University of Washington Press, Seattle, WA, USA.
- Pater, D.E., S.A. Bryce, T.D. Thorson, J. Kagan, C. Chappel, J.M. Omernik, S.H. Azevedo, and A.J. Woods. 1998. Ecoregions of Western Washington and Oregon (2 sided color poster with map, descriptive text, summary tables, and photographs). Reston, VA, USA. U.S. Department of Interior, Geological Survey (map scale: 1:1,350,000. ISBN 0-607-89571-3.
- Rose, R., C.E. Chachulski, and D.L. Haase. 1998. Propagation of Pacific Northwest native plants. Oregon State University Press, Corvallis, OR, USA.
- Wilson, M.V, D.E. Hibbs, and E.R. Alverson. 1991. Native plants, native ecosystems, and native landscapes: an ecological definition of native will promote effective conservation and restoration. *Kalmiopsis*:13-17.
- ORBIC http://orbic.pdx.edu/documents/pclist_2004.pdf
- <http://www.nps.gov/plants/restore/pubs/intronatplant/intronatplant.pdf>

Native Plant Identification

- Plants of the Pacific Northwest Coast: Washington, Oregon, British Columbia & Alaska (Pojar & Mackinnon)
- Flora of the Pacific Northwest (Hitchcock & Cronquist)
- Handbook of Northwestern Plants (Gilkey & Dennis)
- Northwest Trees: Identifying and Understanding the Region's Native Trees (Arno & Hammerly)

Thank You!



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