Native plants
Design, Installation, and Maintenance of Oregon Native plants

By Weston Miller
OSU Extension Service Faculty
Listen to Grow PDX!

Wednesdays, 1:30pm–2:00pm

Grow PDX is a show focusing on horticulture, community food systems and agriculture.

This call-in show is hosted by Weston Miller, OSU Extension Service Community and Urban Horticulturist.

*Listen in to get the real dirt!*
Preview of presentation

- Why grow natives?
- Drought hardiness is timely
- Annuals
- Trees
- Shrubs (Stationary and spreaders)
- Ground covers
- Perennial flowers and fillers
Why native plants?

• Provide habitat
• Connecting to history/culture
• Developing a new aesthetic
• Observing nature
• Erosion control
• Rain gardens
All plants are native to somewhere

For Backyard habitat certification, look for plants on the Portland plant list.
Native plants are:

• 4 x more likely to attract native bees than non-natives

• Native plant species attract 3x as many species of moths and butterflies

Xerxes Society

Swallowtail butterfly on cascade penstemon
Growing and Caring of Natives

• Soil- add compost
• Water plants during establishment
• Be sparing with fertilizer
• Be patient... many are slow growing
Special conditions based on habitat

- Woodland- rich soils (*Saxifrage*)
- Alpine- good drainage (*Sedums*)
- Wetland- (*Camassia, Mimulus, Malus fusca*)
  - Winter and spring moisture
Low-maintenance characteristics

- Long-lived
- Low water/fertilizer needs
- Few pest problems
- Don’t require frequent pruning or division
- Don’t Deadheading

Courtesy Linda McMahan
Drought happens...

- Seasonally
- Regionally

Study: County demand may outpace its supply

BY CRAIG COLEMAN
ccoleman@eaglenewspapers.com

POLK COUNTY - The demand for drinking water in Polk County in 2040 will outpace what’s available in its collective supplies during peak months by almost 13 million gallons a day.

That’s the prognosis of an in-depth analysis completed in October involving representatives from the county’s cities and water providers.

The same report, entitled the Regional Water Supply Strategy, also recommends creating a county-wide resource, using a treatment plant to divert water from the Willamette River to deficient areas, as the most viable solution to the problem.

That would entail either revamping an existing treatment facility at Adair Village or constructing a new one near Independence.

The cost for either option: roughly $70 million.

Almost two years ago, Polk County Commissioners created an advisory committee to evaluate the lack of viable long-term water resources in the region and to research a reliable supply source.

That group, with members from five incorporated cities and eight water associations and co-ops, presented their recommendations last week.

The issue of water scarcity seems a distant problem right now, said Commissioner Phil Walker.

"If we don’t take the necessary steps, we will be suffering for lack of water in the future," he also said. "And the whole net of our constituents will be asking, ‘Why didn’t we act on this sooner?’"

Projected demand was calculated by using population growth estimates and the gallons per capita day for each of the entities. The county will grow to almost 90,000 residents by 2040, according to the study.

Consultants from Engineering and Economic Services, Inc., who performed the report, excluded West Salem from that figure and the analysis because the area receives its water from the City of Salem.

Most parts of the county get water from wells and other ground sources. Dallas, Willamina and the Buell Red Prairie and Rock Creek Water districts also use some surface water from reservoirs.

According to the study, 75 percent of the future deficit can be attributed to the three largest county cities. Dallas, could be experiencing a shortfall during peak demand in the summer by 2006.

Independence and Monmouth are expected to exceed their supplies during high-use periods in 2013 and 2026, respectively. Willamina is the only incorporated city where demand won’t outstrip resources.

As a whole, the county will be deficient by an average of 13 million gallons per day (mgd) by 2040. The average daily demand for water was under 7 mgd in 2000.

The study looked at almost a dozen alternative water supply options, from expanding groundwater sites near Rickreall to constructing a reservoir in Yamhill County. The objective was to design a regional source from which all the entities could incrementally draw water as need arises.

All of the parties involved in the study would form a regulatory body that would oversee distribution. The existing water supplies - and surplus - of all of the parties would not be threatened.

The two most feasible solutions involve diversions and treatment plants along the Willamette at one of two points, either Adair Village or near Independence.

The county has a water right agreement in place with the City of Adair Village, which resides in Benton County.

'Polk officials may buy or transfer part of that right to a location on the river that would better serve residents of this county,' the study states.

The $72 million Adair Village option would see a retrofit of its treatment plant built during World War II.

The system has a current production capacity of 2.3 mgd, and only uses 6 mgd for local customers.

The proposed improvements would be completed in four phases over the next four decades, until the plant was capable of producing as much as 12 mgd.

Transmission lines would have to be built to carry water from the facility to all three main cities, then to the other parties.

The second option is a new river intake and treatment plant near Independence for $68 million. Distributing the water would be less costly than the Adair Village project, but would require more extensive treatment to meet state and federal drinking water standards because it’s located downstream of industrial sites in Albany.

Both options would require the providers to secure water rights on the Willamette.

Revenue bonds would be used to finance the majority of the up-front cost of construction. Wholesale rates, system development charges and debt would fund operation of the entity.

With the technical portion of the project search complete, the water providers would need to select one of the alternatives, and decide what type of organizational framework they would form to oversee the regional water source.

The county will be forming a policy committee consisting of the mayors of each city and water district heads to make the final decisions.

Commissioners in the past have said the county would not be involved in selling water. Other possibilities for a governing body include a people’s utility district, water authority or intergovernmental agency. All of the options allow for the issuance of revenue bonds.

Each carries its own risk. For example, an intergovernmental agency formed under Oregon statute could make the all of the participating parties liable for the financial ability of the other parties or the regional entity as a whole.
Rainfall and Water Use in W. Oregon

- Rainfall
- Water Use

Inches or millions of gallons (x10)

Jan | Mar | May | Jul | Sept | Nov
--- | --- | --- | --- | --- | ---
0   | 0   | 0   | 0   | 0   | 0

Oregon State University
Extension Service
Choose drought hardy plants
Plant in fall for long establishment period

Courtesy: Rob Emanuel
Irrigate for plant establishment

Courtesy: Neil Bell
Until fall rains begin…

Courtesy: Neil Bell
Temporary drips systems work well too!
EC 1561. Improving garden soils with organic matter
This works well too...

Courtesy: Neil Bell
The most important thing about mulch: Use it!
If You Want Low Maintenance, Look for Care-Free Annuals

California poppy is one annual plant that is a great choice for our area.
Meadow foam - *Limnanthus alba*

- Self-seeding, spring flowering annual
- Can form dense, overflowing mat
- Very attractive to honey bees
- Grown for seed oil and for feeding bees
Oregon native trees

Most are too big for urban lots... if you still want sun and space.

Some less common beauties:

• Oregon ash- *Fraxinus latifolia*
• Shore pine- *Pinus contorta* var. *contorta*
• Oregon white oak- *Quercus garryana*
Vine maple- *Acer circinatum*
Vine Maple

(Acer circinatum)

– Deciduous shrub
– Spectacular fall color
Blue elderberry-
*Sambucus mexicana*
Red elderberry – *Sambucus racemosa*
Red osier dogwood – *Cornus sericea*
Red-osier Dogwood- *Cornus sericea*

- Deciduous shrub
- Spectacular fall color
- Red bark visible in winter
Ceanothus - Blue blossom
Red-flowering Current
• Red Flowering Currant
  *(Ribes sanguineum)*
  – Deciduous shrub
  – Flowers in Spring
  – Edible berries for wildlife
  – Attracts hummingbirds
Mock Orange - *Philadelphus lewisii*

Amazing fragrance!
Physocarpus capitatus-nine bark
Holodiscus discolor - Ocean Spray
Goat’s beard–*Aruncus diocus*
Viburnum edule Highbush Cranberry
California wax myrtle
Myrica Californica
California Hazelnut

*Corylus cornuta* var. *californica*
Shrubs that spread by runners

- Tall Oregon Grape
- Snowberry
- Native roses
- Spirea
- Thimbleberry
Tall Oregon Grape
(Mahonia aquifolium)

• Evergreen
• Food for wildlife
• Attracts hummingbirds
• Spreads by rhizomes
Snowberry – *Symphoricarpus albus*
Edible native shrubs

• Thimbleberry, Salmonberry and Salal
Salal (*Gaultheria shallon*)

- Evergreen shrub
- Edible berries provide food for wildlife
- Smaller shrub
Vaccinium ovatum

Evergreen huckleberry
Spotted Wing Drosophila (SWD) alternate host
Kinnikinnick (*Arctostaphylos uva-ursi*)

- Evergreen groundcover
- Fruit provides food for wildlife
- Drought tolerant
Kinnickinnick- *Arctostaphylos uva-ursi*
Ceanothus ground covers

Native to California, not Oregon
Fragaria sp.
Coastal Strawberry (*Fragaria chiloensis*)

- Evergreen groundcover
- Edible berries attract wildlife
For shadier areas

Columbine

Fringe cup

Bleeding Heart
Oregon sunshine
Meadow checker bloom
Cascade penstemon
Lupinis rivularis
Spread by seed
Douglas aster

Spreads vigorously by rhizomes and seeds
Indian blanket- *Gaillardia aristata*
Seaside daisy - *Erigeron glaucus*
A tribute to yarrow!

*Achillea millefolium*
Showy milkweed- *Asclepias speciosa*
Red flowered tubes of *Epilobium californicum* attract hummingbirds
Sword fern –
Polystichum munitum
Native Grasses

California and Idaho Fescues

Tufted hair grass
Oregon and Douglas Iris
Award-winning cultivars abound

*Sedum ‘Autumn Joy’* is a sturdy garden perennial for our area.
Heuchera

Penstemon
From Nursery to Nature

<table>
<thead>
<tr>
<th>Flower Name</th>
<th>Common Name</th>
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</thead>
<tbody>
<tr>
<td><em>Achillea millefolium</em></td>
<td><em>A. millefolium</em> 'Strawberry Seduction'</td>
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<tr>
<td><em>Agastache foeniculum</em></td>
<td><em>A. foeniculum</em> 'Golden Jubilee'</td>
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<tr>
<td><em>Aquilegia canadensis</em></td>
<td><em>A. canadensis</em> 'Corbett'</td>
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<tr>
<td><em>Asclepias tuberosa</em></td>
<td><em>A. tuberosa</em> 'Hello Yellow'</td>
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<td><em>Baptisia australis</em></td>
<td><em>B. australis</em> 'Twilite Prairieblues'</td>
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<tr>
<td><em>Geranium maculatum</em></td>
<td><em>G. maculatum</em> 'Espresso'</td>
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<tr>
<td><em>Helium autumnale</em></td>
<td><em>H. autumnale</em> 'Moerheim Beauty'</td>
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<tr>
<td><em>Lobelia cardinalis</em></td>
<td><em>L. cardinalis</em> 'Fried Green Tomatoes'</td>
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<tr>
<td><em>Monarda fistulosa</em></td>
<td><em>M. fistulosa</em> 'Claire Grace'</td>
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<tr>
<td><em>Penstemon digitalis</em></td>
<td><em>P. digitalis</em> 'Husker Red'</td>
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<tr>
<td><em>Rudbeckia fulgida</em></td>
<td><em>R. fulgida</em> 'Goldsturm'</td>
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<tr>
<td><em>Todescentia ohiensis</em></td>
<td><em>T. ohiensis</em> 'Red Grape'</td>
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<tr>
<td><em>Veronicastrum Virginicum</em></td>
<td><em>V. virginicum</em> 'Lavendelturn'</td>
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<tr>
<td><em>Symphyotrichum novae-angliae</em></td>
<td><em>S. novae-angliae</em> 'Alma Poteschke'</td>
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<tr>
<td><em>Echinacea purpurea</em></td>
<td><em>E. purpurea</em> 'White Swan'</td>
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<tr>
<td><em>Echinacea</em> 'Sunrise' Big Sky</td>
<td><em>Echinacea</em> 'Pink Double Delight'</td>
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https://pollinatorgardens.org/2013/02/08/my-research/
Buying Native Plants

• Local nurseries and garden centers
  – carry native plants seasonally

• Ask where the plants are grown
  – Some native plant species are grown in other states - they are also considered native there
  – Find native plants that are grown locally to prevent mixing in genetic populations that are not local
Resources

• *Plants of the Pacific Northwest Coast* - Pojar and Mackinnon.


• *Propagation of Pacific Northwest Natives* - Rose, Robin.

• *Sunset Western Garden Book*

• *Right Plant, Right Place* - Nicola Ferguson

• *Attracting Native Pollinations* - Xerxes Society