

Boosting the Ecological Vitality of a Garden Replacing Grass with Native Groundcovers



Jane Sherrott, Master Gardener

**Grass-free Lawns are Becoming More Popular
for Home Gardens and in Public Spaces**



**Avondale Park, London
Mix of 14 plants**



Strawberry Lawn

Life Increases in Your Garden



**A Garden with a Diverse Range of Plants Will Support
a Very Large Number of Insects, Animals and Birds**



Dr. Jennifer Owen's small urban yard:

- **2000 insect species**
- **55 different birds**

Planting biodiversly and leaving the garden "a bit messy" were key

Plants I Grow Don't Need Mowing



Native strawberries



Ajuga, thyme and violas

And Stay Green Without Water or Minimal Watering Once Established

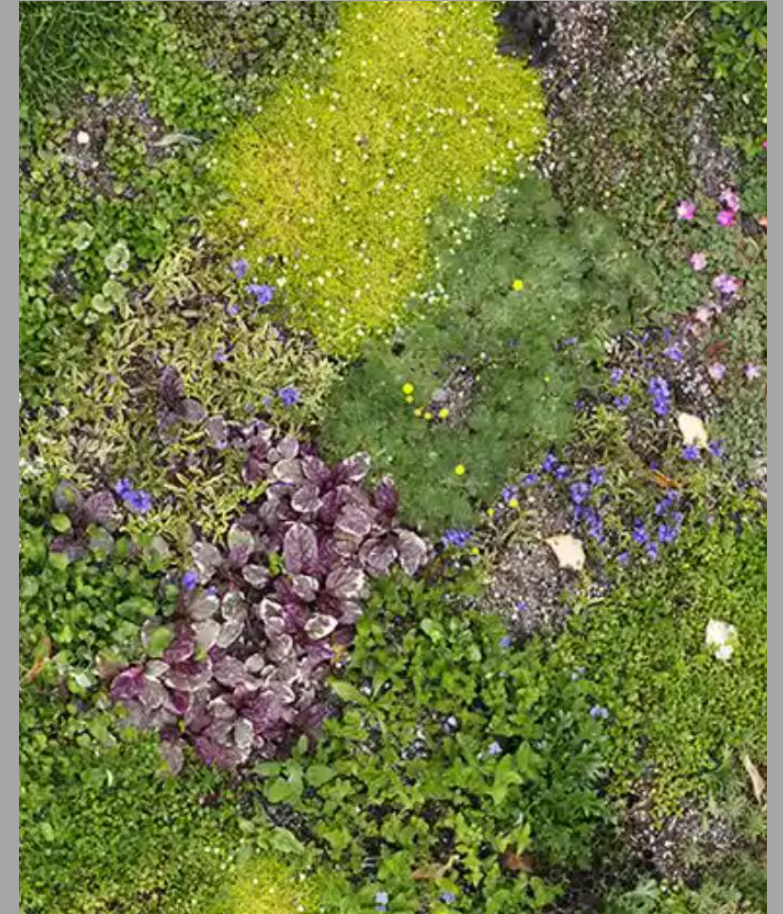
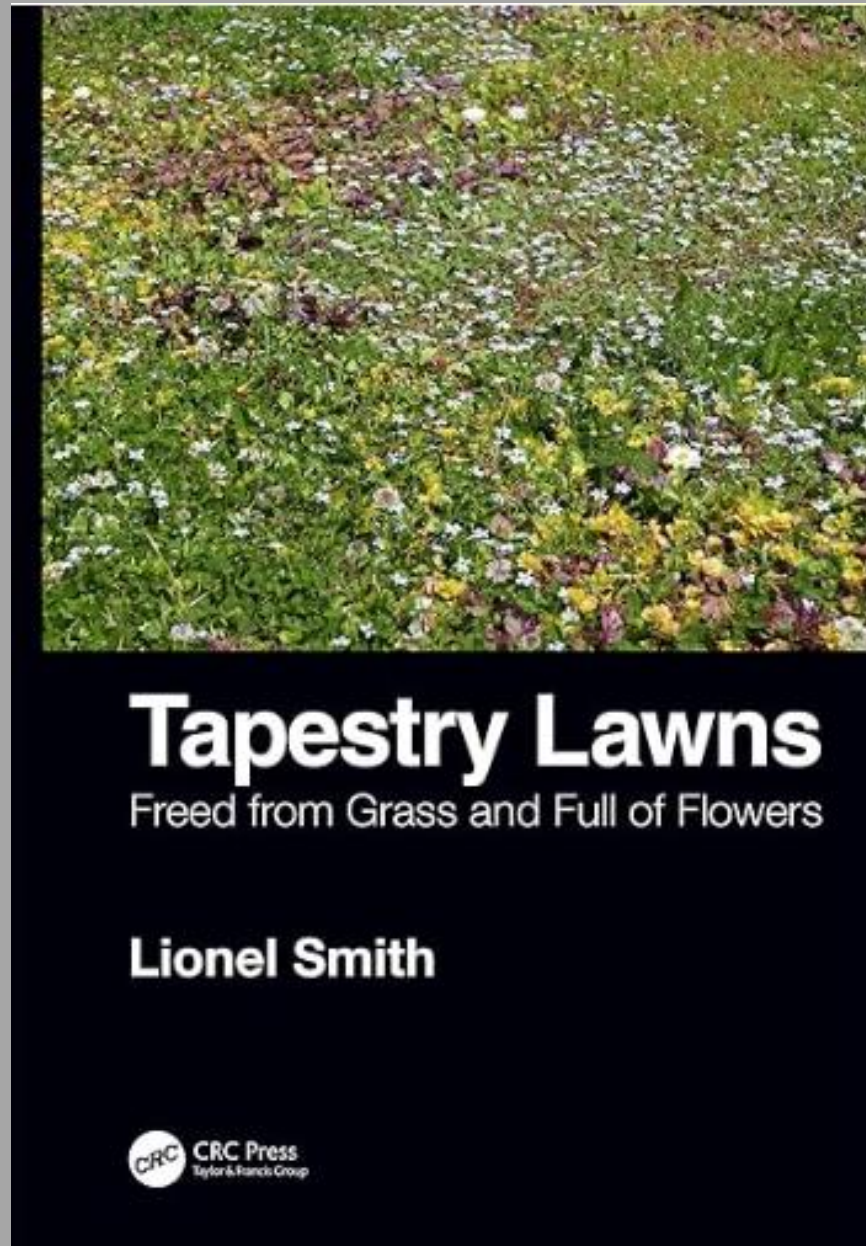


Achillea



Plantains

**Research and
Reading
Dr. Lionel Smith,
PhD thesis,
University of
Reading, UK**



Groundcover Trials

Choosing Groundcover Plants

1- Start with a Foundation

Planting– 60% of plants

- tough, evergreen, can be walked on
- fill in fast
- no grass for me, so no mow
- larval host plants (caterpillar food)

2- Bloom Extenders- 40%

Add other plants with contrasting foliage and differing flowering times to extend blooming across four seasons



**Project 1- Cabin
Front Lawn**

Foundation Plant 60%

Veronica chamaedrys

Bird's Eye Speedwell

Recommended by Vancouver 'Grow Green Guide'

Allium cernuum, **Nodding Onion**
(grassy clumps)



Cabin Front Yard Foundation
Veronica chamaedrys
Late April bloom



**Nodding
Onion**
*Allium
cernuum*



**Cabin
Back Lawn**

**Foundation
Plants:**

*Veronica
chamaedrys*

**Native
Strawberries**
F. chiloensis



Native Strawberries



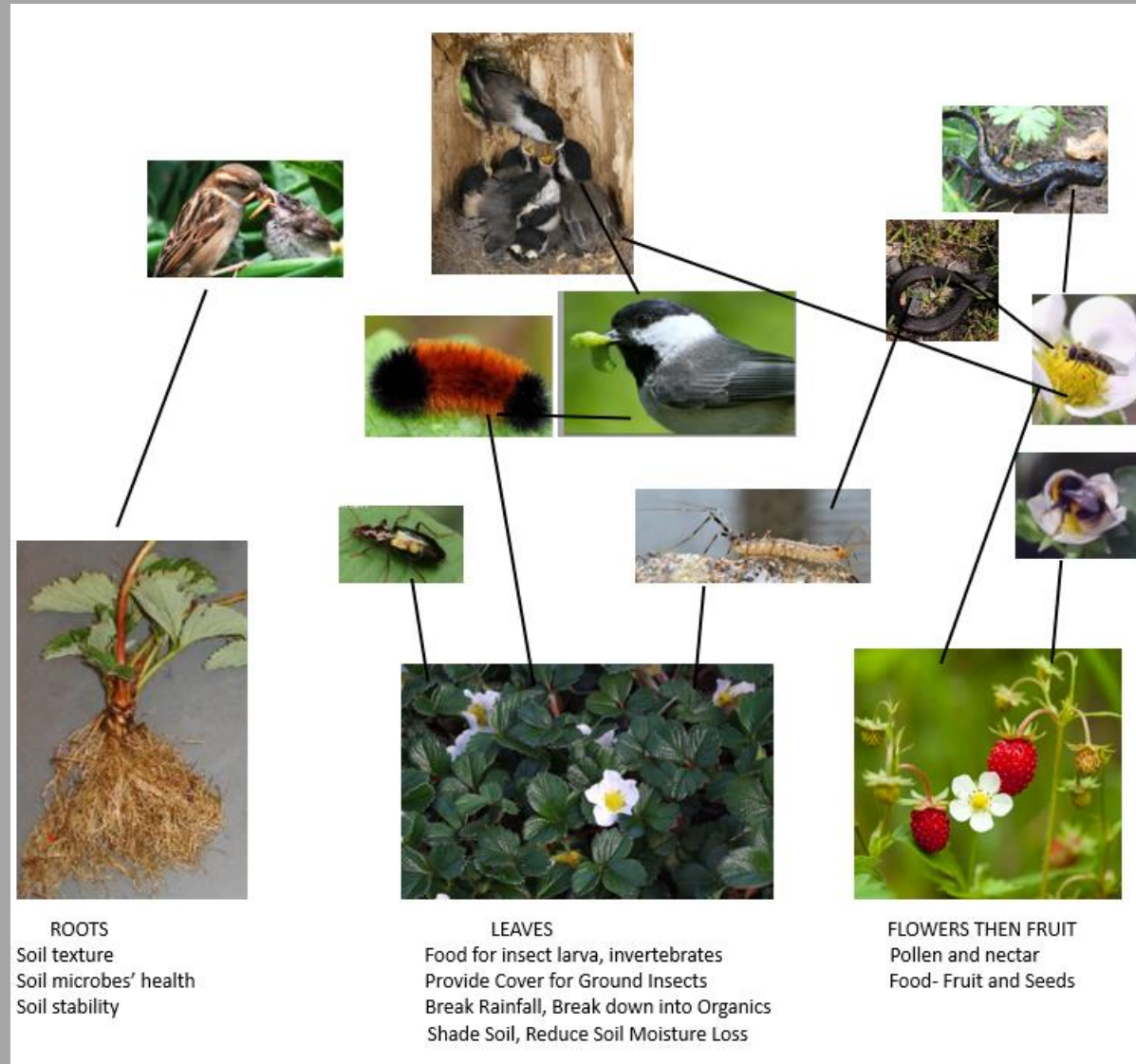
Fragaria chiloensis
Beach Strawberries
Sun



Fragaria vesca
Woodland Strawberry
Part shade to sun

Healthy Ecosystems are All About Links and Function

Native Strawberries are a Powerhouse



Native strawberries provide leafy food for the caterpillar stage of 76 BC butterfly species! No plant rivals this. Consider, milkweed principally supports 1.

Installation at Cabin

- 1- Cut grass very very low**
- 2- Raked hard**

Facilitates seed germination by increasing seed to soil contact and facilitates seedling establishment by reducing competition from grass



Project 2: Home Garden

Foundation Plants:

Veronica repens- 30% (non native)

Prunella vulgaris- 30%



Home Foundation Plants

30% *Veronica repens*
(spring bloom)

and

30% *Prunella vulgaris*
(summer bloom)



Veronica repens

Prunella vulgaris

Prunella vulgaris



**Butterflies and bees love the flowers
birds love the seeds!**

**100% *Prunella
vulgaris***

Here in shade

**A strong
grower in sun
or shade**



All Plants Chosen are Tough

Veronica repens
Native strawberry



Creeping Thymes (not native)



Karen English's Vancouver thyme lawn

We can add stepping stones through thyme and other less durable groundcovers



Durability and Play Area for Kids



Add a sandy path to embrace a beachside holiday vibe



Or a gravel path to mimic natural areas kids love to run through

Additional Plants- 40%

**Combine Varying Leaf Shapes
And
Extend Flowering Time**



thyme

violas
Viola adunca
V. canadensis

**strawberry, yellow
ornamental 'Alexandria'**

Ajuga reptans- what's not to love with its blue combined with English daisies white flowers





**English
Daisies**

**West Vancouver Community
Centre**
Bellis perennis



**‘Pom Pom’
and
‘Rominette’**

Plantains

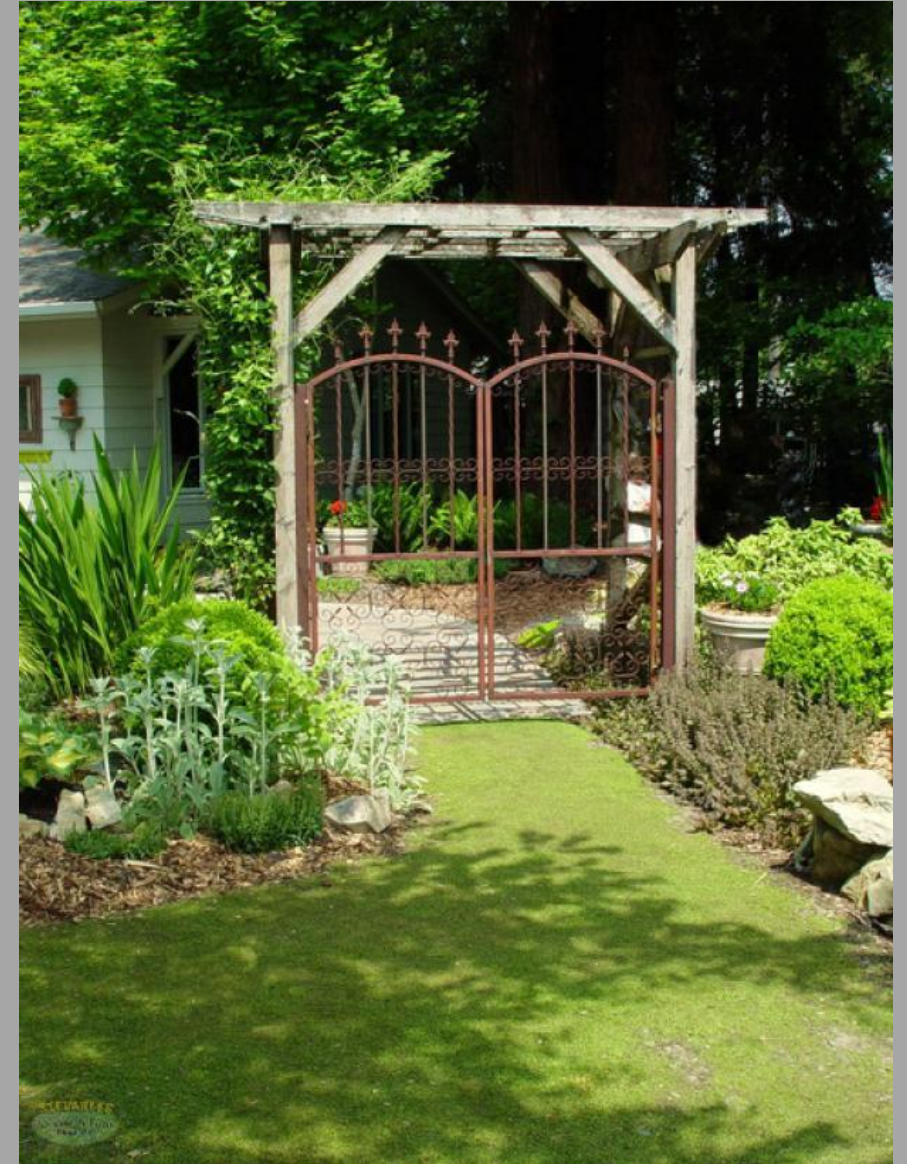
Plantains
and
achillea



Feathery Leaves: leptinella and acaena



Purple acaena (not native) and green leptinella (not native)



Leptinella lawn

Silverleaf- *Potentilla anserina*



*Butterflyway and Bee Friendly
Larval Host Plant and Nectar Source*

Clovers



**24 clovers in the wild in BC:
annual, perennial, native and
naturalized**



***Trifolium wormskioldii*, pink flowers, PNW native
Trifolium repens, white flowers, BC naturalized**

Mowed Micro-clover

Advantages

- ***chafer resistant***
- **needs less water**
- **does not need fertilizer**
- **dense like grass, monoculture look**
- **needs less mowing than grass**



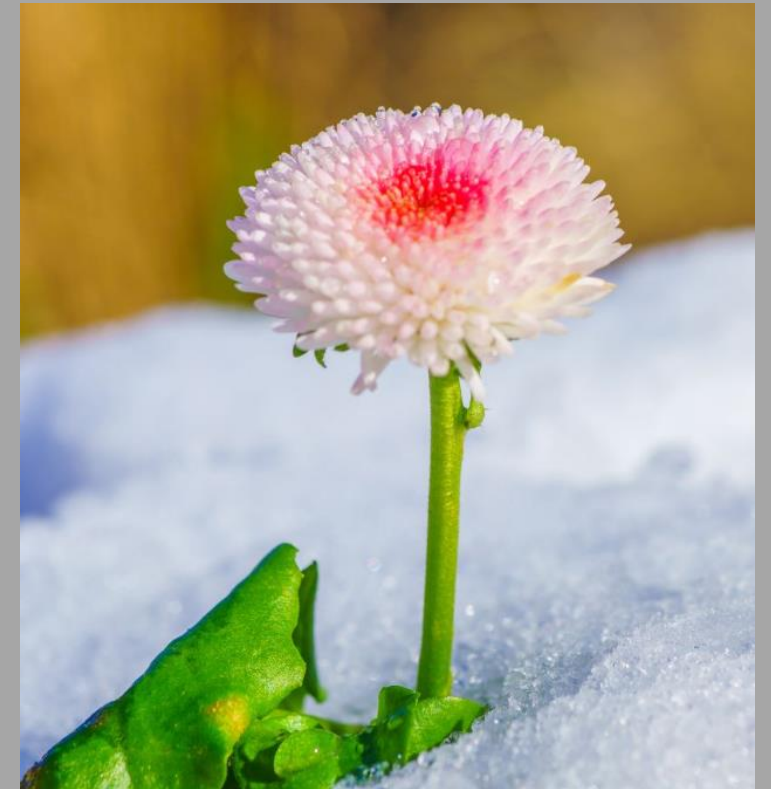
Disadvantages

- **Monoculture**
- **not native so less likely to be food for insects or caterpillars**
- **OSU research- clovers only live 3 years**
- **Flowers minimally so reseeds only sparingly**
- **If don't reseed bare spots, weeds can establish**
- **very aggressive and fast spreading as 100% monoculture**

**Late Fall and Winter
Depend on Repeat Bloomers**



**English daisies, clover,
prunella, ajuga, violas**



**English daisies-
the best rebloomer**

Crocuses- not native

**Queen bumblebees in
snow crocuses and
species in late January
and February**



**Honeybees
in Dutch
hybrid
crocuses in
March and
April**



**Removing or Killing Turf Ensures
Best Establishment**



No to Buttercups. Potential for invasiveness in wild areas?



Wow- Black ajuga with green buttercups (but choose dwarf potentilla or prunella instead)



**BC Dandelions and Other Species-
Uncertain?
Watch Spread Outside Yard
Mow after flowering or remove if see spread**



Taraxacum officinale
Our PNW dandelion



Taraxacum pseudorozeum (Asia)



T. Coreanum (Korea)



T. carneocoloratum (native to Alaska)



*Taraxacum
albidiflorum* (Japan)

Sun Plants

Foundation Plants:

Veronica- *V. chamaedrys* (April) or
V. repens (April, May, repeat)

Beach Strawberries- *Fragaria chiloensis*
(May, June, repeat)

Heal All- *Prunella vulgaris* (July, Aug.)

Bloom Extenders:

Crocuses (Jan, Feb, March)

Violas- *V. adunca*, *V. canadensis* (March, repeat)

English daisies- *Bellis perennis* (April, May, repeat)

Nodding Onions- *A. cernuum*
(April, May, repeat)

Silverleaf- *Potentilla anserina* (June, July, repeat)

Clovers- *Trifolium* spp. (July, repeat)

Plantain- *Plantago major* (Aug.)

Acaena, Leptinella

Shade Plants

Foundation Plants:

Ajuga- *Ajuga reptans* (late spring, repeat)

Woodland Strawberries- *Fragaria vesca*
(summer, repeat)

Heal All- *Prunella vulgaris*
(late summer, repeat)

Bloom Extenders:

Viola- *Viola adunca* (March, repeat)

Plantain- *Plantago major* (Aug.)



ajuga



snowdrops

Planting- Simple Start for Sun With Four Seasons of Bloom

Violas... English Daisies... Strawberries... Veronica ... Clover and All Rebloom Well



Late winter- *Viola canadensis*, *V. adunca*



Summer- clover



Early Spring- English daisies

Late Spring, Early Summer- strawberries and veronica

Shade Simple Start



Ajuga

Plantains

Moss

Prunella

Violas

Blooming spring to fall: violas (March, April) ----ajuga (May, June)----prunella (July, August)---plantains (Aug, Sept)

Try A Plant Chart with Bloom Times to Help Plan Four Seasons of Bloom

	Jan., Feb.	March, April	May, June	July, Aug.	Sept, Oct.	Nov., Dec
Early Crocuses- <i>C. chrysanthus</i> , <i>C. tomassinianus</i> and snowdrops	Principal bloom					
Dutch hybrid crocuses		Principal bloom				
BC violas: <i>V. adunca</i> , <i>V. canadensis</i>		Principal bloom		Repeat blooming	Repeat blooming	Repeat blooming
BC annual clover <i>Trifolium willdenovii</i>		Principal bloom		Repeat blooming	Repeat blooming	Repeat blooming
BC ajuga <i>Ajuga reptans</i>		Principal bloom				
Hybrid ajugas	Repeat blooming	Principal bloom	Principal bloom	Repeat blooming	Repeat blooming	Repeat blooming
English daisies, <i>Bellis perennis</i>	Repeat blooming	Principal bloom		Repeat blooming	Repeat blooming	Repeat blooming
BC veronica <i>Veronica chamaedrys</i>		Principal bloom				
Hybrid veronica <i>V. repens</i>		Principal bloom		Repeat blooming	Repeat blooming	
BC allium, <i>Allium cernuum</i>		Principal bloom				
BC strawberries, <i>Fragaria chiloensis</i> , <i>F. vesca</i>			Principal bloom			
Brass Buttons, <i>Leptinella squalida</i>			Principal bloom			
BC Silverleaf, <i>Potentilla anserina</i>			Principal bloom		Repeat blooming	
BC perennial clover, T. <i>wormskioldii</i>	Repeat blooming	Repeat blooming		Principal bloom	Repeat blooming	Repeat blooming
BC Self Heal, <i>Prunella vulgaris</i> ssp. <i>lanceolata</i>	Repeat blooming			Principal bloom		Repeat blooming
BC Plantain, <i>Plantago major</i>				Principal bloom		



Principal bloom



Repeat blooming



Spring..crocuses..violas...English daisies...ajuga...veronica...alliums...strawberries...clover...prunella...plantains..Winter

Planting Design- Match House and Garden Formal Gardens



*Veronica
repens*



**English
daisies**



**Ajuga
(hybrid)**

Formality



Asian- themed



prunella



Contemporary



Leptinella 'Platt's Black'



Ajuga 'Black Scallop', dwarf potentilla



Dynamic, Bright



**Hybrid English
Daisies**



Silverleaf

Cottagey Abundance



Corsican mints and chamomiles

Winter...crocuses ... violas... English daisies ... ajugastrawberries ... clover ... prunella ... clover...plantains ...

Vancouver North Shore



Ajuga reptans

Increasing Biodiversity

Can I just Sprinkle Seed onto a Healthy Lawn?

No ☹ unless lawn is very very sparse then try seeding the strongest-growing plants

Veronica chamaedrys



English daisies



Clovers- *T. wormskioldii*
T. repens



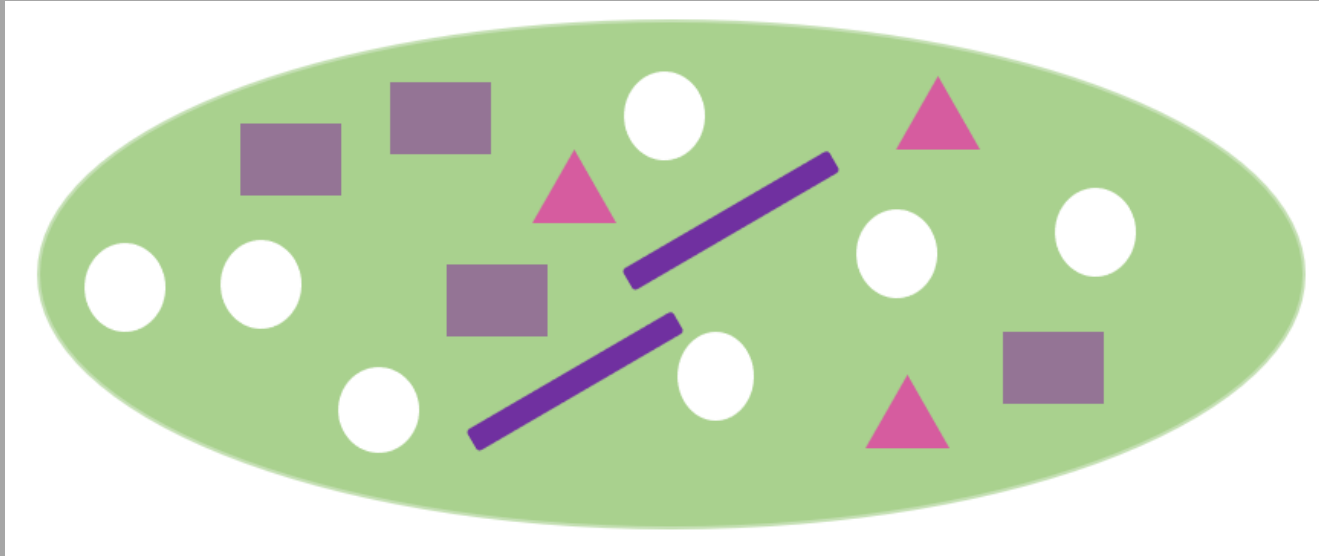
Prunella



Plantains



**Increasing Biodiversity- Easy Way
Dig Some Holes in Grass and Put a Transplant in**



**Best for Adding
Into Grass**



ajuga



strawberries



prunella



plantains



English daisies



violas

Other Easy Ways to Increase Biodiversity



Rake grass away or find bare spots, loosen soil, sprinkle some seed



Divide existing clump from lawn and replant in another part of lawn

Commercial Seeds Mixes

Examples- Enviro Lawn, Bee Lawn

Most commonly contain:

Hybrid grasses- Perennial Ryegrass, Hard Fescue

or Native grasses- Roemer's or Red Fescues

Yarrow - *Achillea millefolium* (BC)

English Daisy - *Bellis perennis* (BC)

Clover- *Trifolium* spp. (BC)

Woolly Thyme- *Thymus serpyllum*

Wildflower Seed- BC or CA annuals

Seed in these mixes will not establish if seed is sprinkled over healthy grass



Seed Reliability

Example

Northwest Meadowscares

Native Pollinator Meadow:

Annual Wildflowers 29%

Douglas Meadowfoam, Globe
Gilia, Farewell to Spring ...

Perennial Wildflowers 47%

Self Heal, Western Yarrow...

Prairie Cinquefoil

Native Grasses 24%

Roemer's Fescue...



Northwest Prairie Mix



Deer Defense Seed Mix



Native Pollinator Meadow
Seed Mix 1 (For West of the
Cascades)

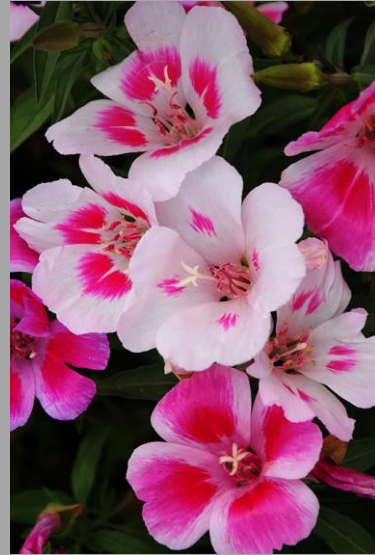


Nearly Native Bee Lawn Seed

**Mix in Some Annual
PNW Wildflowers**



**March to
November
Tomcat Clover
(PNW native)
*Trifolium
willdenovii***



**Farewell
to Spring**



Globe Gilia



Poached Egg Plant



Sea Blush

**Add
Cues to Care:**

**Edging, path, chair,
“butterfly garden”
sign, bird bath...**



Questions

We Can Enhance the Ecological Vitality of Our Yards by Replacing Lawn with Groundcovers



LAWN ALTERNATIVE SEED MIXES CAN CONTAIN WILDFLOWER SEED WILDFLOWER SEED FREQUENTLY CONTAINS SEED FOR INVASIVE SPECIES

BC Council of Invasive Species Report on Seed Mixes

https://bcinvasives.ca/wp-content/uploads/2021/01/Seed_Mix_FINAL_04_22_2019-1.pdf

<https://bcinvasives.ca/news/whats-in-your-seed-mix/>

*****100% of wildflower mixes they bought contained seed for invasives**

- seed for 3 to 13 invasive species per package**
- 8 contained seed for noxious weeds**
- 23% had accurate seed list on package**

Problem Example:

‘Pacific Northwest Wildflowers’ Seed Mix

0% BC or PNW Native Plants

Seed for 5 Invasive Species

Invasives commonly found:

California Poppies, Baby’s Breath, Bachelor’s Buttons, Blueweed (*Echium vulgare*), Burdocks (*Arctium* spp.), Foxglove, Giant Hogweed, Knapweed (*Centaurea* spp.), Oxeye daisy (*Leucanthemum vulgare*), Purple Loosestrife, St John’s Wort, Common Tansy

Mowed Micro-clover

Advantages

- ***chafer resistant***
- **needs less water**
- **does not need fertilizer**
- **dense like grass, monoculture look**
- **needs less mowing than grass, 3-4 weeks**



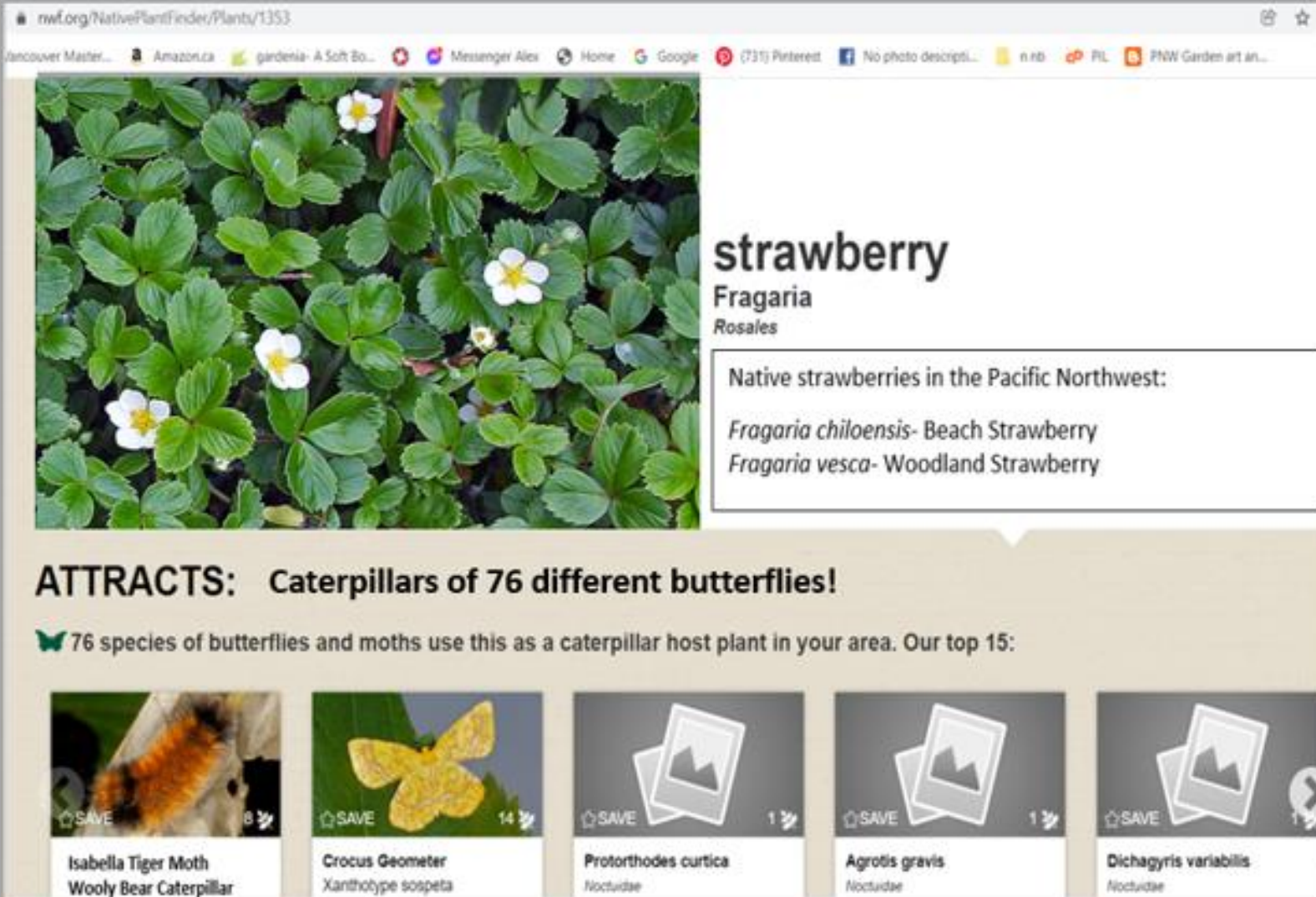
Disadvantages

- **Monoculture**
- **Not seen to be larval host plant**
- **Flowers minimally so reseeds only sparingly**
- **very aggressive and fast spreading as 100% monoculture**
-

West Coast Seeds



Few Plants Rival Strawberries as Larval Host Plants (Food for Caterpillars)



rwf.org/NativePlantFinder/Plants/1353

strawberry
Fragaria
Rosales

Native strawberries in the Pacific Northwest:
Fragaria chiloensis- Beach Strawberry
Fragaria vesca- Woodland Strawberry

ATTRACTS: Caterpillars of 76 different butterflies!

76 species of butterflies and moths use this as a caterpillar host plant in your area. Our top 15:

- Isabella Tiger Moth
Woolly Bear Caterpillar
- Crocus Geometer
Xanthotype sospeta
- Protorthodes curtica*
Noctuidae
- Agrotis gravis*
Noctuidae
- Dichagyris variabilis*
Noctuidae



Why Do We Want
More Caterpillars?

Baby birds eat
caterpillars not seed.

Provides food for caterpillars of 76 different butterflies!