Plants for Pollinators

Pollinator Pathway Project

Kingfield, Lyndale and
Tangletown Neighborhood Associations
Hennepin County Master Gardeners

Preparing Your Garden

- Choose your location
- Make a sun map
- Prepare the site

Choose your location

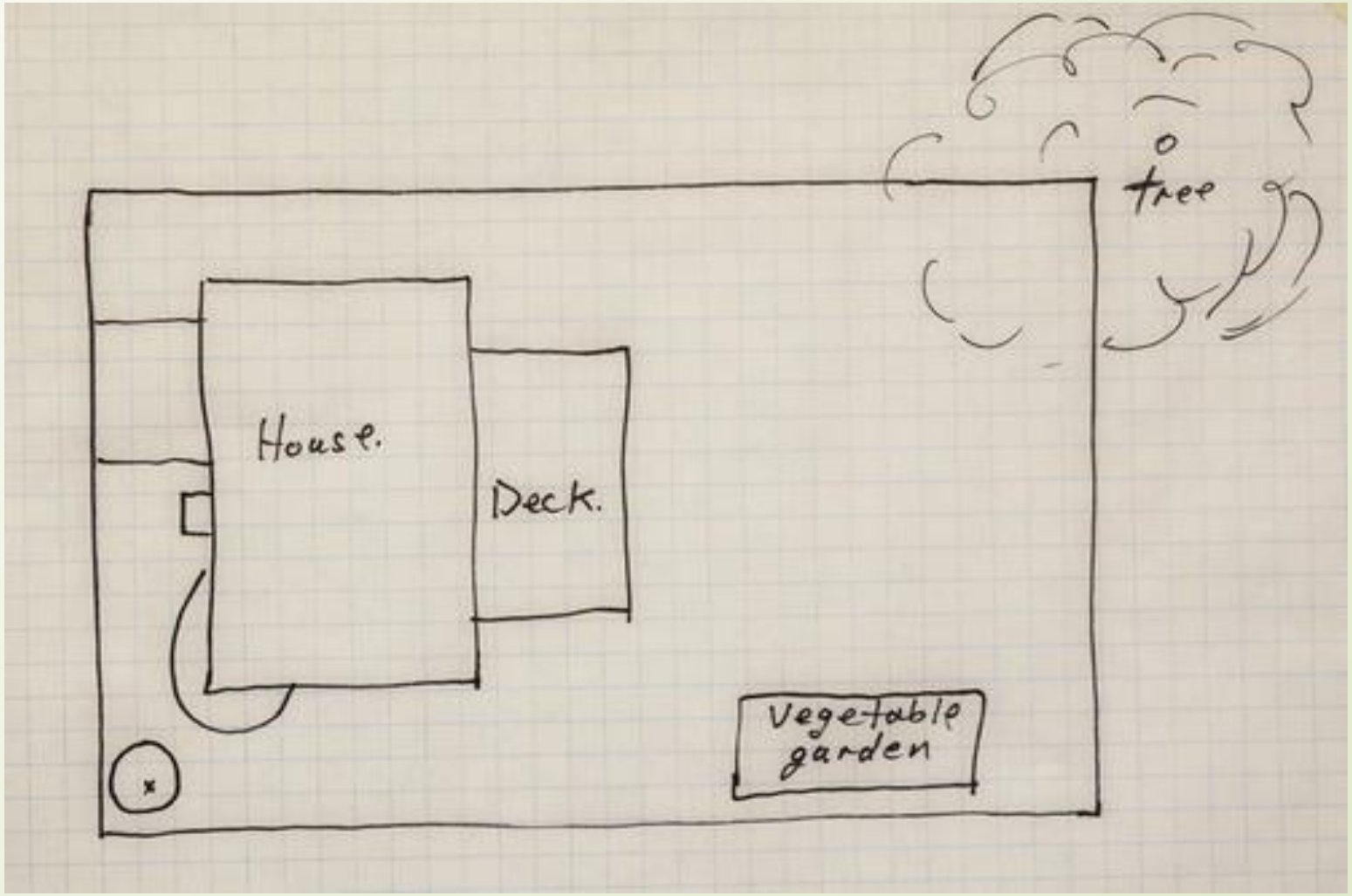
- Ease of maintenance
  - Slope, obstacles
- Access to water
  - Hoses, other irrigation
- Soil
  - Rocks
  - Compaction
- Effects of buildings, sidewalks
  - Heat radiates from buildings, microclimates close to house

Make a Sun Map

- Most plants for pollinators need full or part sun
- Midsummer is best for sun mapping but early fall/late spring OK
- Using graph paper, map your yard, include all buildings, sidewalks, any structures or tall trees that cast shadows.
- Make multiple copies
- Every 3 hours, sunrise-sunset, note location of sun and shade throughout the day on a separate copy
- With all maps completed note locations of full sun (at least 6 hours/day), part sun (4-6 hours) and shade.

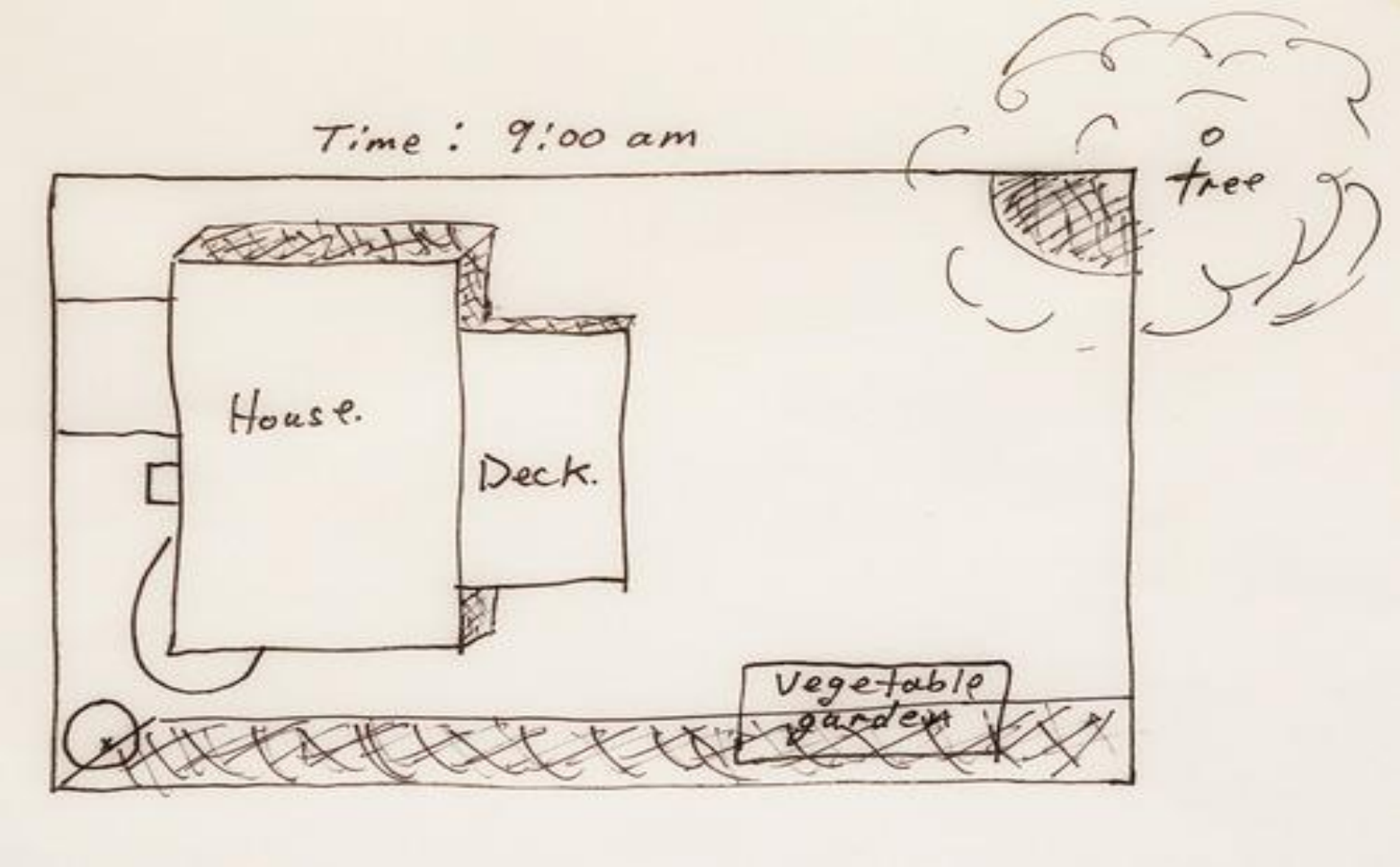
Sun Map

Property drawing



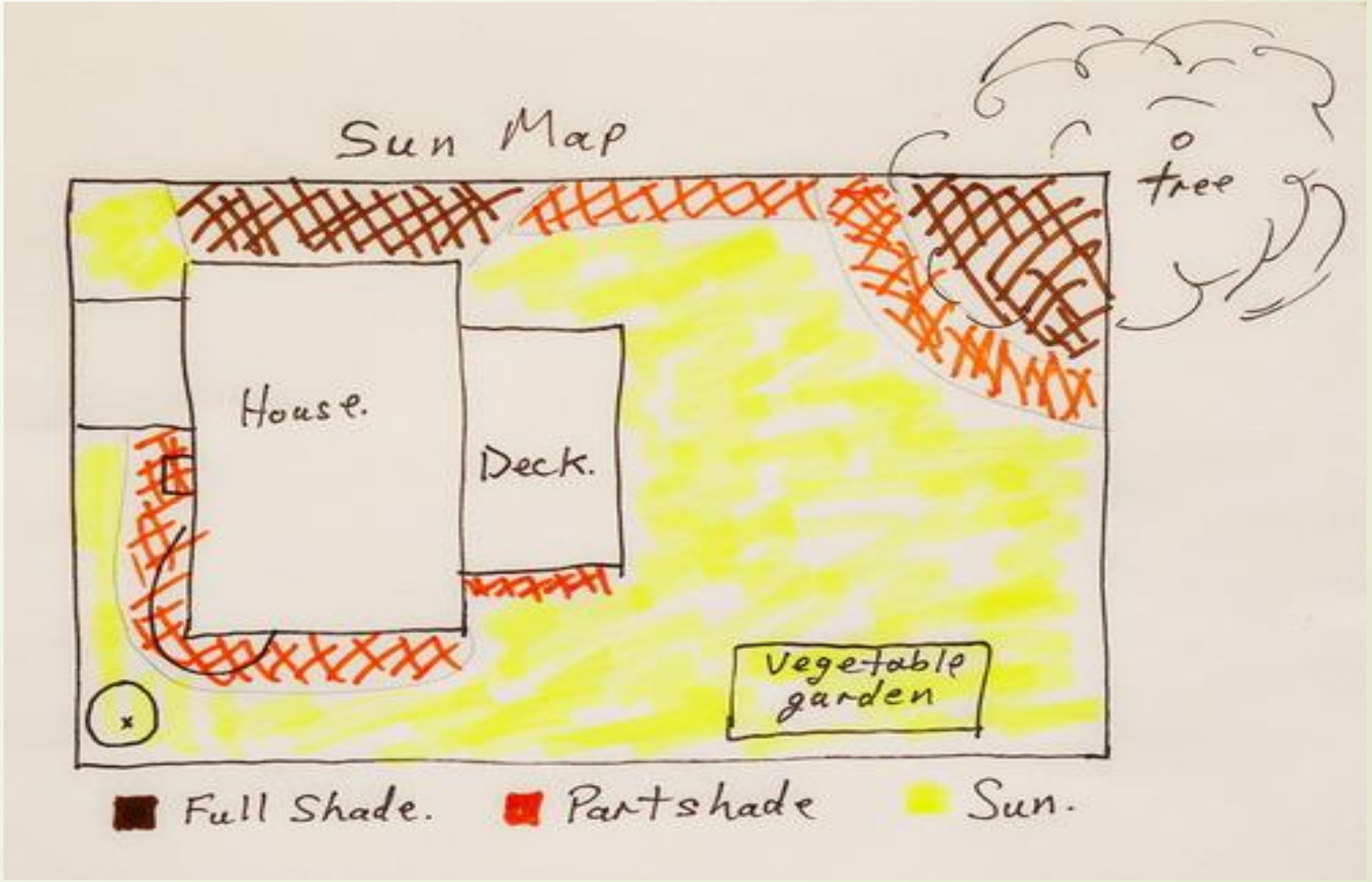
Sun Map

9:00 am



Sun Map

Final Map



Prepare the site

Remove turf grass

- Physical removal – cut into strips with sod cutter and roll up
- Solarization – easy but slow
  - Start in late spring – warm weather needed
  - Cut grass as short as possible, water well
  - Cover with black polyethylene, hold down with rocks or stakes
  - Leave in place 4 weeks or more until grass is dead, eave dead grass to compost in place
- Sheet composting
  - Cover with cardboard or 10+ layers of newspaper
  - Cover with compost and at least 4" of mulch, let paper layers decompose
  - Minimal labor but slow process

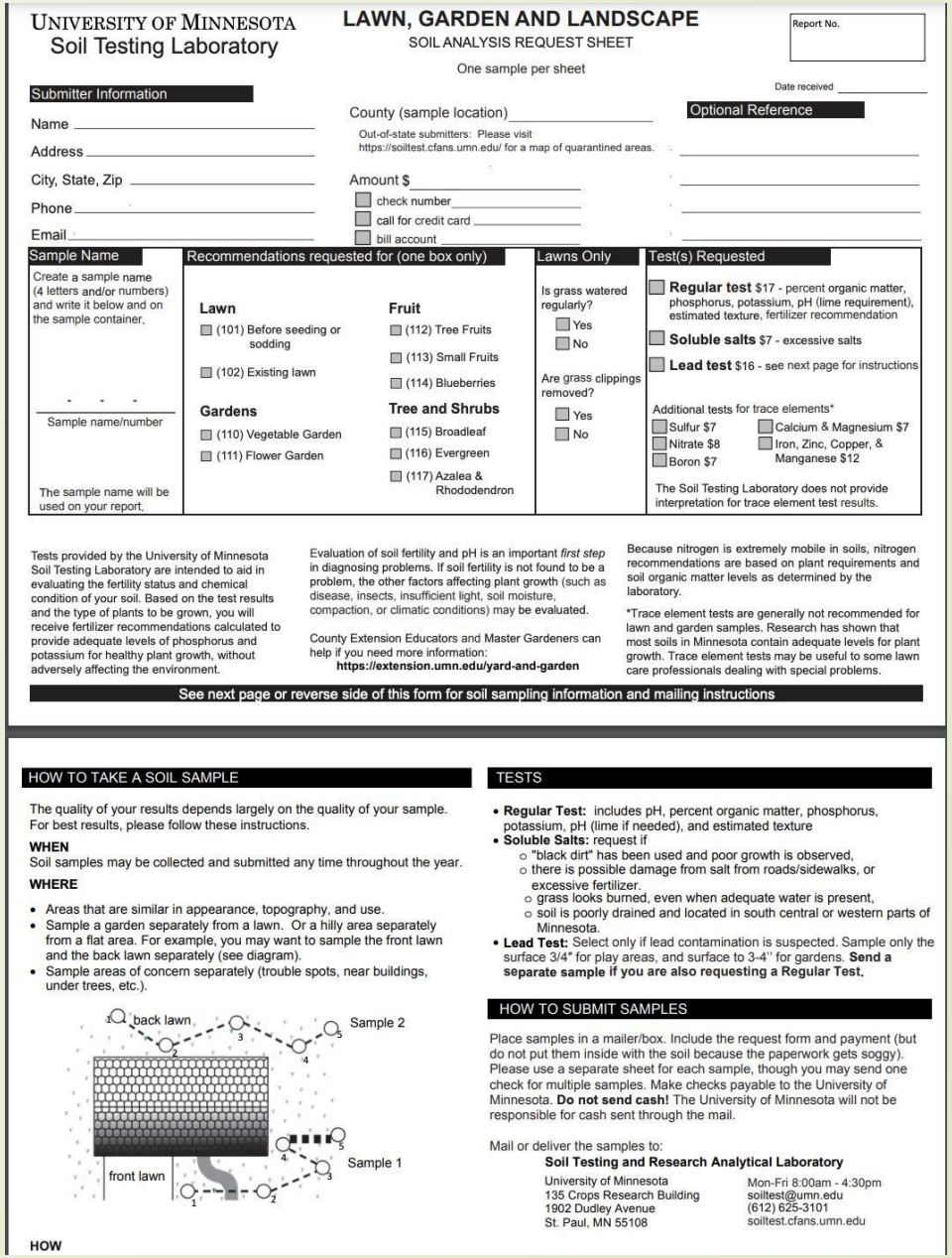
Amend Soil

- Consider adding compost or topsoil
- Soil in boulevards or recent construction area might be compacted
- No need to fertilize for native plants

Prepare the Site

Soil test

- pH between 6.0 and 8.5
- https://soiltest.cfans.umn.edu/



UNIVERSITY OF MINNESOTA
Soil Testing Laboratory

LAWN, GARDEN AND LANDSCAPE
SOIL ANALYSIS REQUEST SHEET
One sample per sheet

Report No.

Date received

Submitter Information

Name
Address
City, State, Zip
Phone
Email

County (sample location)
Out-of-state submitters: Please visit https://soiltest.cfans.umn.edu/ for a map of quarantined areas.

Amount $
☐ check number
☐ call for credit card
☐ bill account

Optional Reference

Sample Name

Create a sample name (4 letters and/or numbers) and write it below and on the sample container.

Sample name/number

The sample name will be used on your report.

Recommendations requested for (one box only)

Lawn
☐ (101) Before seeding or sodding
☐ (102) Existing lawn

Gardens
☐ (110) Vegetable Garden
☐ (111) Flower Garden

Fruit
☐ (112) Tree Fruits
☐ (113) Small Fruits
☐ (114) Blueberries

Tree and Shrubs
☐ (115) Broadleaf
☐ (116) Evergreen
☐ (117) Azalea & Rhododendron

Lawns Only

Is grass watered regularly?
☐ Yes
☐ No

Are grass clippings removed?
☐ Yes
☐ No

Test(s) Requested

☐ **Regular test** $17 - percent organic matter, phosphorus, potassium, pH (lime requirement), estimated texture, fertilizer recommendation
☐ **Soluble salts** $7 - excessive salts
☐ **Lead test** $16 - see next page for instructions

Additional tests for trace elements*
☐ Sulfur $7
☐ Nitrate $8
☐ Boron $7
☐ Calcium & Magnesium $7
☐ Iron, Zinc, Copper, & Manganese $12

The Soil Testing Laboratory does not provide interpretation for trace element test results.

Tests provided by the University of Minnesota Soil Testing Laboratory are intended to aid in evaluating the fertility status and chemical condition of your soil. Based on the test results and the type of plants to be grown, you will receive fertilizer recommendations calculated to provide adequate levels of phosphorus and potassium for healthy plant growth, without adversely affecting the environment.

Evaluation of soil fertility and pH is an important *first step* in diagnosing problems. If soil fertility is not found to be a problem, the other factors affecting plant growth (such as disease, insects, insufficient light, soil moisture, compaction, or climatic conditions) may be evaluated.

County Extension Educators and Master Gardeners can help if you need more information:
https://extension.umn.edu/yard-and-garden

Because nitrogen is extremely mobile in soils, nitrogen recommendations are based on plant requirements and soil organic matter levels as determined by the laboratory.

*Trace element tests are generally not recommended for lawn and garden samples. Research has shown that most soils in Minnesota contain adequate levels for plant growth. Trace element tests may be useful to some lawn care professionals dealing with special problems.

See next page or reverse side of this form for soil sampling information and mailing instructions

HOW TO TAKE A SOIL SAMPLE

The quality of your results depends largely on the quality of your sample. For best results, please follow these instructions.

WHEN
Soil samples may be collected and submitted any time throughout the year.

WHERE

- Areas that are similar in appearance, topography, and use.
- Sample a garden separately from a lawn. Or a hilly area separately from a flat area. For example, you may want to sample the front lawn and the back lawn separately (see diagram).
- Sample areas of concern separately (trouble spots, near buildings, under trees, etc.).

HOW

TESTS

- **Regular Test:** includes pH, percent organic matter, phosphorus, potassium, pH (lime if needed), and estimated texture
- **Soluble Salts:** request if
  - "black dirt" has been used and poor growth is observed,
  - there is possible damage from salt from roads/sidewalks, or excessive fertilizer,
  - grass looks burned, even when adequate water is present,
  - soil is poorly drained and located in south central or western parts of Minnesota.
- **Lead Test:** Select only if lead contamination is suspected. Sample only the surface 3/4" for play areas, and surface to 3-4" for gardens. **Send a separate sample if you are also requesting a Regular Test.**

HOW TO SUBMIT SAMPLES

Place samples in a mailer/box. Include the request form and payment (but do not put them inside with the soil because the paperwork gets soggy). Please use a separate sheet for each sample, though you may send one check for multiple samples. Make checks payable to the University of Minnesota. **Do not send cash!** The University of Minnesota will not be responsible for cash sent through the mail.

Mail or deliver the samples to:

Soil Testing and Research Analytical Laboratory
University of Minnesota
135 Crops Research Building
1902 Dudley Avenue
St. Paul, MN 55108

Mon-Fri 8:00am - 4:30pm
soiltest@umn.edu
(612) 625-3101
soiltest.cfans.umn.edu

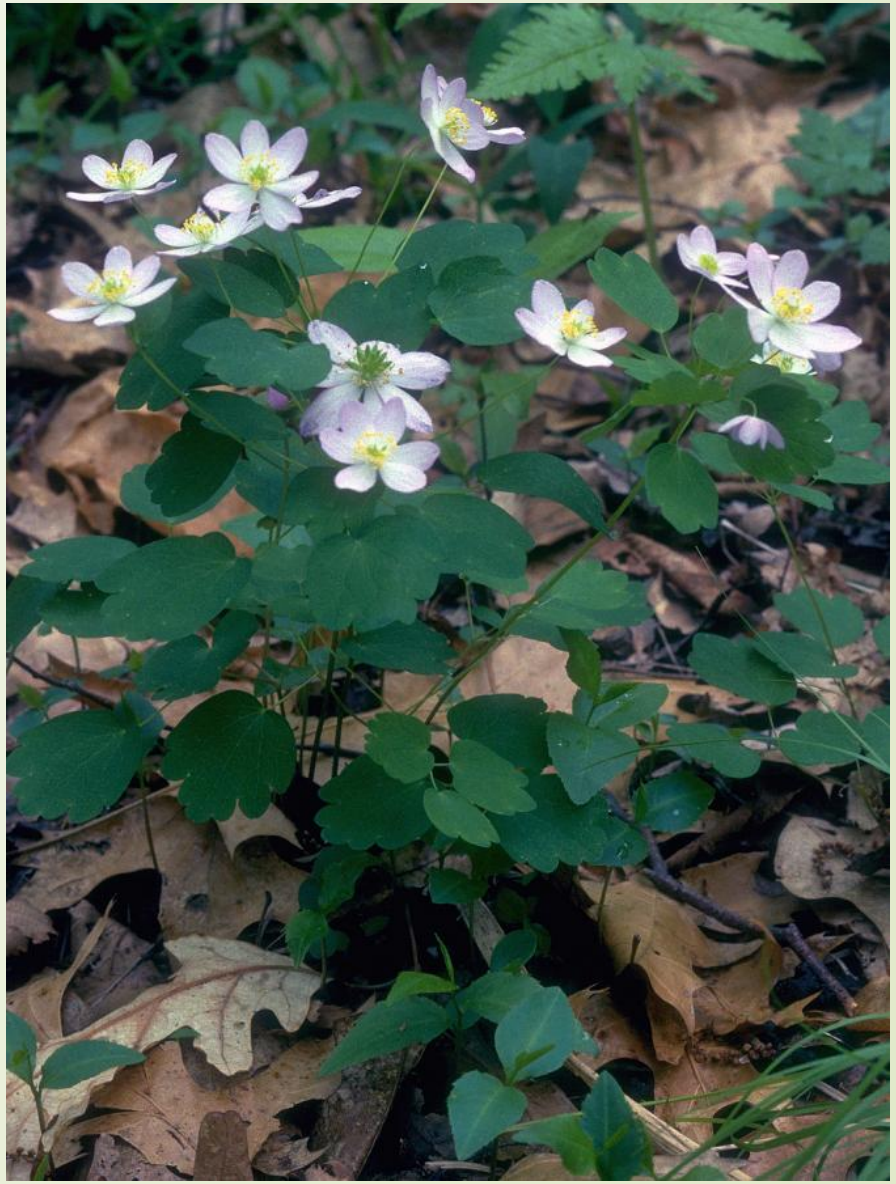
The Plants

- Chosen to attract Rusty-Patched Bumblebee
- Will also attract other pollinators
- Bloom times April-October
- Templates for sunny and part shade areas
- * Plant doesn't need full sun

Rue Anemone*

Thalictrum thalictroides

- Partial shade/Shade
- Blooms April-May
- 1’ tall
- Medium soil



MN DNR

Virginia Bluebell*

Mertensia virginica

- Part Shade/Shade
- Blooms - May
- 1’ tall
- Wet soil

Ohio DNR

Canadian Anemone*

Anemone canadensis

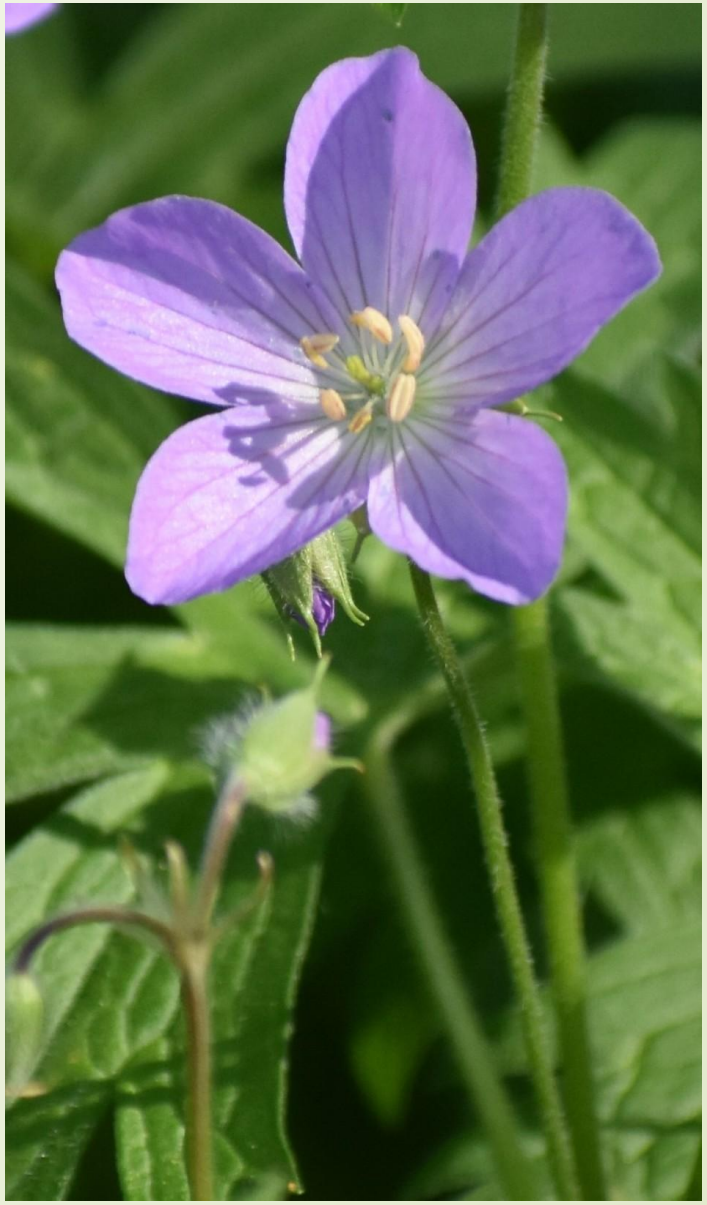
- Sun/Part Sun
- Blooms May-June
- 1’-2’ tall
- Ground cover
- Wet soil

MN DNR

Wild Geranium*

Geranium maculatum

- Sun/Part Sun
- Blooms May-June
- 1’-2’ tall
- Dry-medium soil



MN Arboretum

Woodland Phlox*

Phlox divaricata

- Part Shade/Shade
- Blooms May-June
- 1’ tall
- Medium - Wet soil

MN DNR

Wild Strawberry*

Fragaria virginiana/Fragaria vesca

- Sun/Part Sun
- Blooms May-June
- 6” tall
- Ground cover
- Dry-wet soil

Wildfoods4wildlife

Blanket Flower

Gaillardia aristata

- Full Sun
- Blooms June-August
- 1’-2’ tall
- Dry-Medium soil

Plantpedia

Self Heal*

Prunella vulgaris

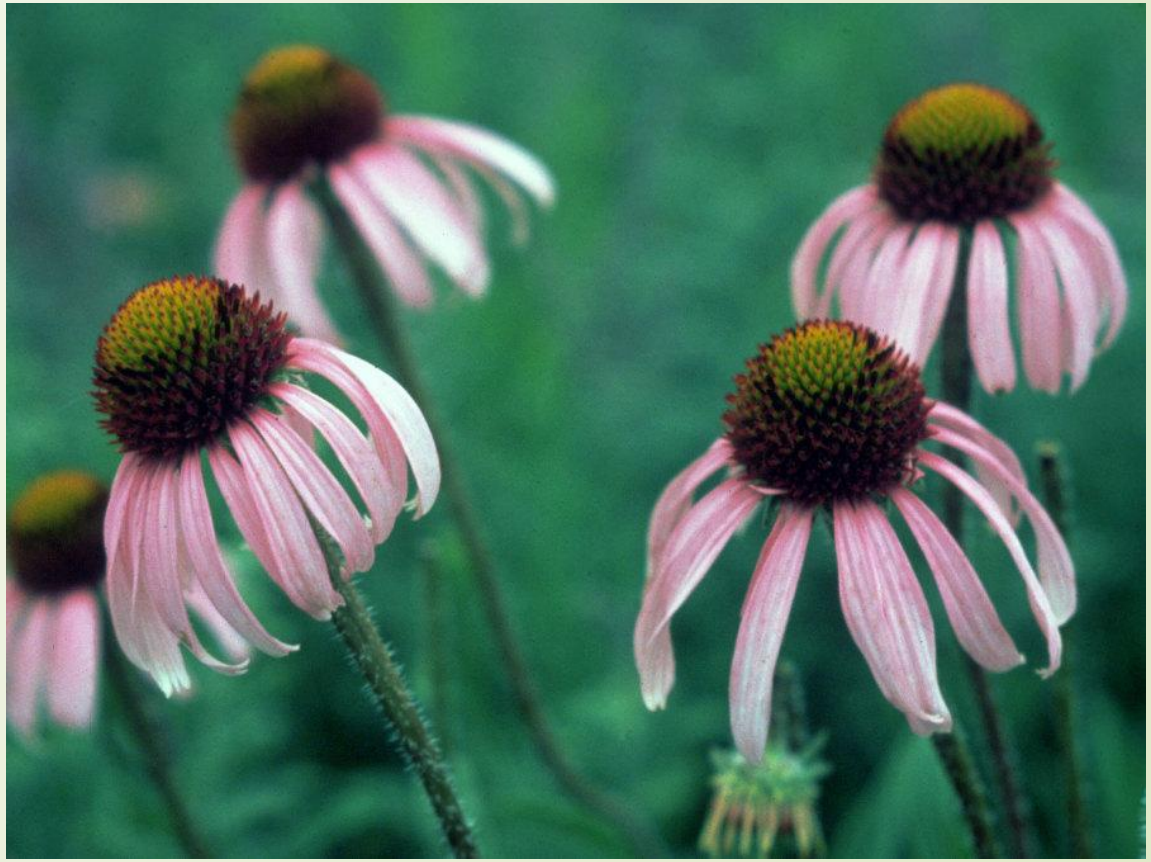
- Sun/Part Sun
- Blooms June-August
- 1’ tall
- Ground cover
- Medium-wet soil

University of Minnesota Extension

Narrow Leaf Coneflower

Echinacea angustifolia

- Sun/Part Sun
- Blooms June-October
- 1’-2’ tall
- Dry soil



MN DNR

Wild Bergamot (Bee Balm)
Monarda fistulosa

- Full Sun
- Blooms July-August
- 3’-4’ tall
- Dry-Medium soil

MN DNR

Purple Prairie Clover

Dalea purpurea

- Sun/Part Sun
- Blooms July-August
- 1’-2’ tall
- All

MN Horticultural Society

Prairie Onion

Allium stellatum

- Sun
- Blooms July-August
- 1’-1.5’ tall
- Dry soil

National Gardening Association

Anise Hyssop
Agastache foeniculum

- Full Sun
- Blooms July-August
- 3’-4’ tall
- Medium-wet soils

MN State Horticultural Society

Mountain Mint*

Pycnanthemum virginianum

- Partial Shade
- Blooms July-October
- 3’-5’ tall
- Medium to Wet soil

MN DNR

Culver's Root*

Veronicastrum virginicum

- Partial Shade
- Blooms July-October
- 3'-5' tall
- Medium to Wet soil

MN DNR

Bottle Gentian*

Gentiana andrewsii

- Partial Shade
- Blooms August-September
- 1’-2’ tall
- Wet soil

M. Mittelstad, University of Wisconsin

Turtlehead*

Chelone glabra

- Sun/Part Sun
- Blooms August-September
- 2’-3’ tall
- Wet soil

MN DNR

Azure Aster*

Symphyotrichum oolentangiense

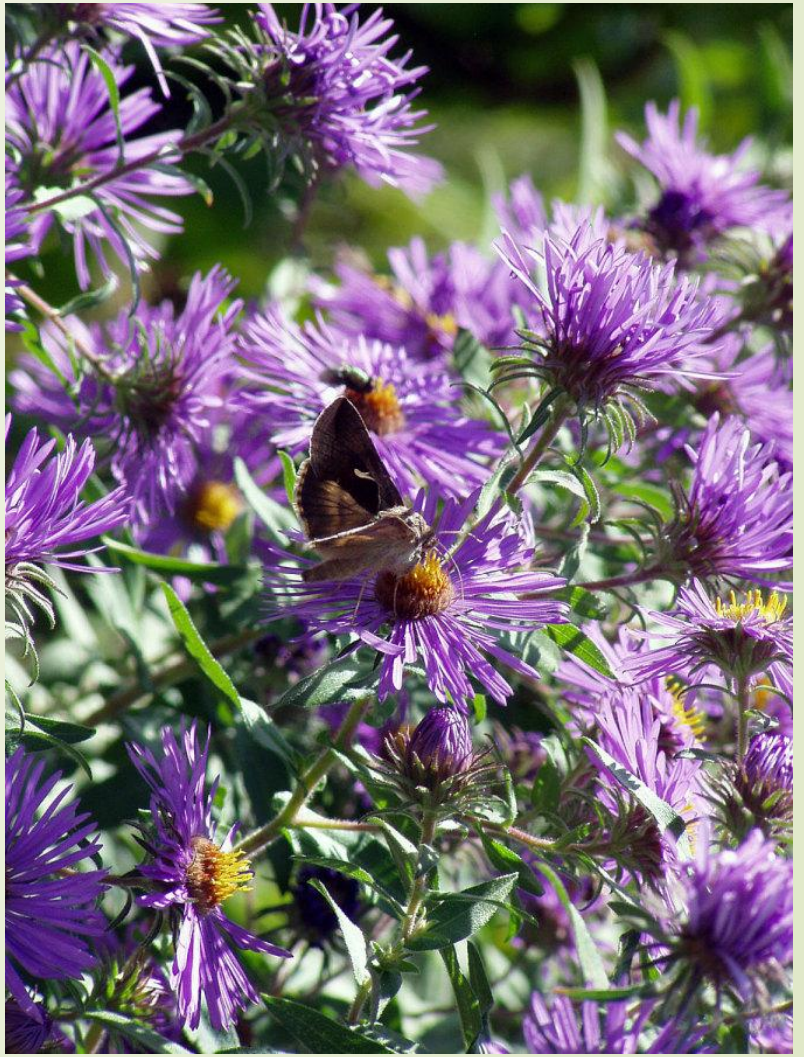
- Sun/Part Sun
- Blooms August-October
- 1’-2’ tall
- All soils

MN DNR

New England Aster*

Symphyotrichum novae-angliae

- Sun/Part Sun
- Blooms September-October
- 4’-5’ tall
- Wet



MN DNR

Care After Planting

- Do not use pesticides or herbicides
- Weed as necessary
- Use thin layer of mulch, natural materials – plants will fill in later
- Use ground cover plants to reduce need for mulch
- Water in early morning; water the ground, not the plants
- Watering deeply but less often encourages root growth and drought tolerance

Fall Cleanup

- Fall leaves can become mulch
- Remove diseased plants - trash, not compost
- Cut and leave hollow stems for nesting bees
- Leave areas of bare soil for ground-nesting bees

Questions?

- extension.umn.edu/yard-and-garden