



Weeds





Associated with Master Gardeners Association of BC

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Affiliated Chapter of the Master Gardeners Association
of BC (MGABC)



In partnership with the
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What is a weed?

According to the
Oxford English Dictionary (OED):

1. a. A herbaceous plant not valued for use or beauty, growing wild and rank, and regarded as cumbering the ground or hindering the growth of superior vegetation.



Cirsium arvense — Canada Thistle

What is a weed?

According to Wikipedia:

A weed is a plant considered undesirable in a particular situation, growing where it is not wanted.



Linaria purpurea - Purple toadflax

What is a weed?

According to Jethro Tull, in 1731:

PLANTS, that come up in any Land, of a different Kind from the sown or planted Crop, are Weeds.

NOTE: A pdf copy of the 1731 book is available online. Check the links.

NOTE, TOO: When reading the text, the letter f is not “f” as in “foxtrot”, but is a “long s” and is pronounced like a modern “s”.

ALSO NOTE: The band, *Jethro Tull*, was indeed named after the agriculturist. [https://en.wikipedia.org/wiki/Jethro_Tull_\(band\)](https://en.wikipedia.org/wiki/Jethro_Tull_(band))

C H A P. VII.

Of WEEDS.

PLANTS, that come up in any Land, of a different Kind from the sown or planted Crop, are Weeds.

That there are in Nature any such things as *inutiles Herbæ*, the Botanists deny ; and justly too, according to their Meaning.

But the Farmer, who expects to make Profit of his Land from what he sows or plants in it, finds not only *Herbæ inutiles*, but also *noxiae*, unprofitable and hurtful Weeds ; which come like *Muscæ*, or uninvited Guests, that always hurt, and often spoil his Crop, by devouring what he has, by his Labour in Dunging and Tilling, provided for its Sustenance.

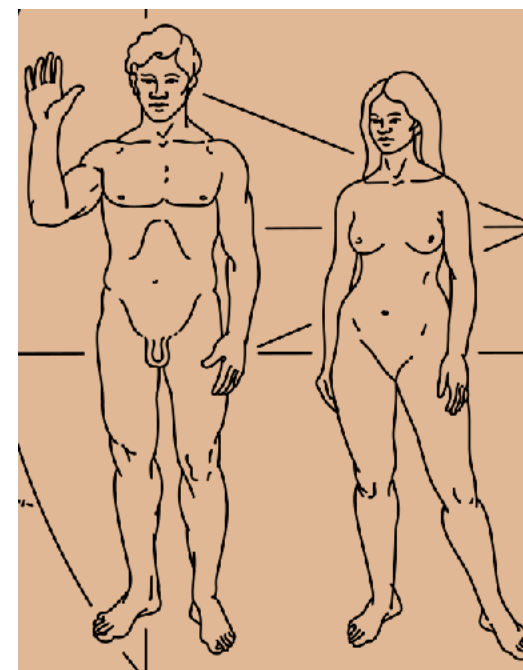
All Weeds, as such, are pernicious ; but some much more than others ; some do more Injury, and are more easily destroy'd ; some do less Injury, and are harder to kill ; others there are, which have both these bad Qualities. The hardest to kill are such as will grow and propagate by their Seed, and also by every Piece of their Roots, as Couch-grass, Coltsfoot, Melilot, Fern, and such-like. Some are hurtful only by robbing legitimate (or sown) Plants of their Nourishment, as all Weeds do ; others both lessen a legitimate Crop by robbing it, and also spoil that Crop, which escapes their Rapine, when they infect it

What is a weed?

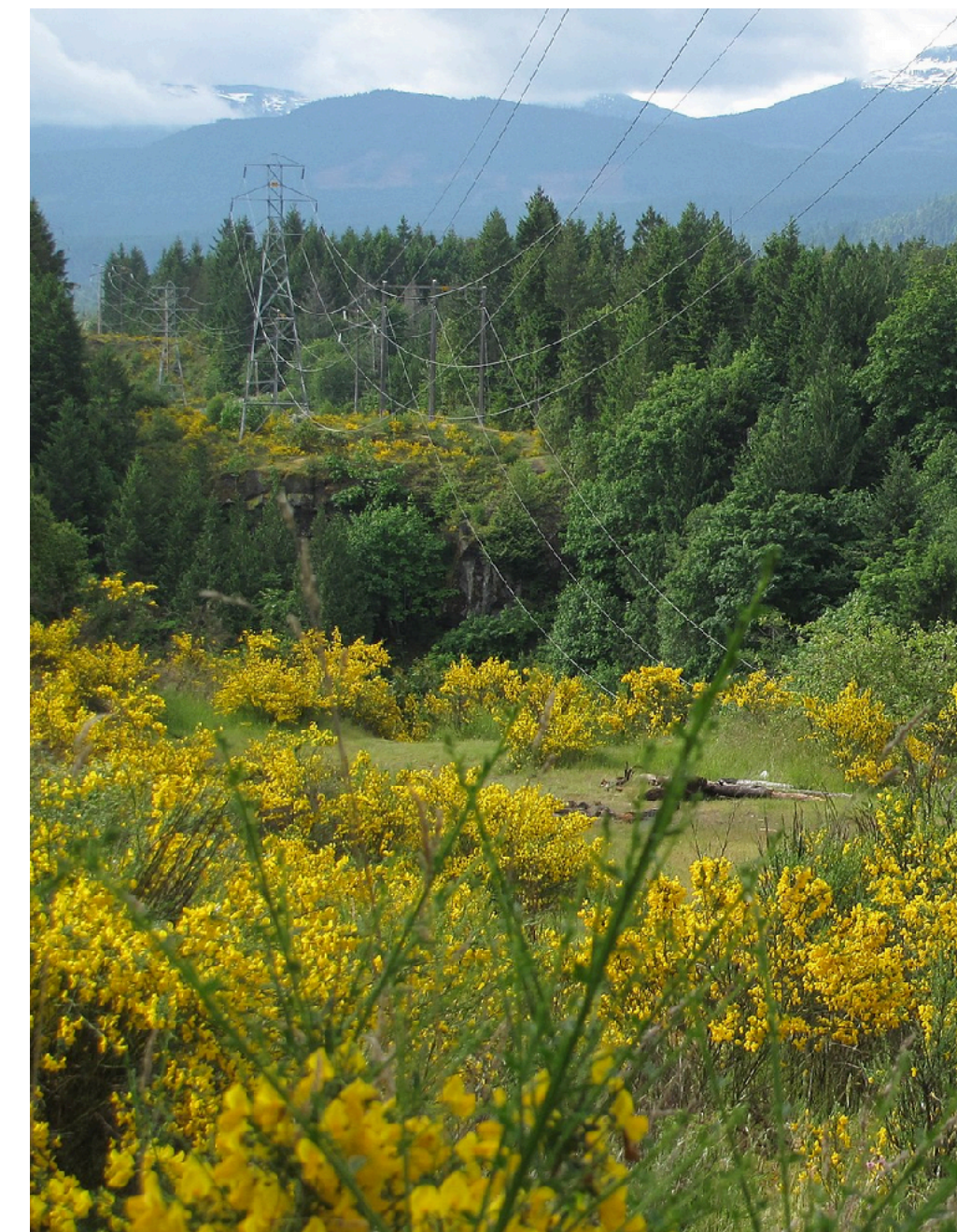
Scotch broom, Himalyan blackberry,
Daphne laureola, English holly, English ivy.

Woody plants and lianas: we're not going
to there.

“What do fire ants, zebra mussels, Asian
gypsy moths, tamarisk trees, maleleuca
trees, kudzu, Mediterranean fruit flies, boll
weevils and water hyacinths have in
common...? Answer: They're
weedy species, in the sense that
animals as well as plants can be
weedy.” *



**Pioneer Plaque
1972/73**



We're not going to there.

* *PLANET OF WEEDS* Tallying the losses of Earth's animals and plants
by David Quammen, Harper's Magazine, October 1998

Weed ID

Know what you're growing

Looks like pleasant little cottage garden, doesn't it?

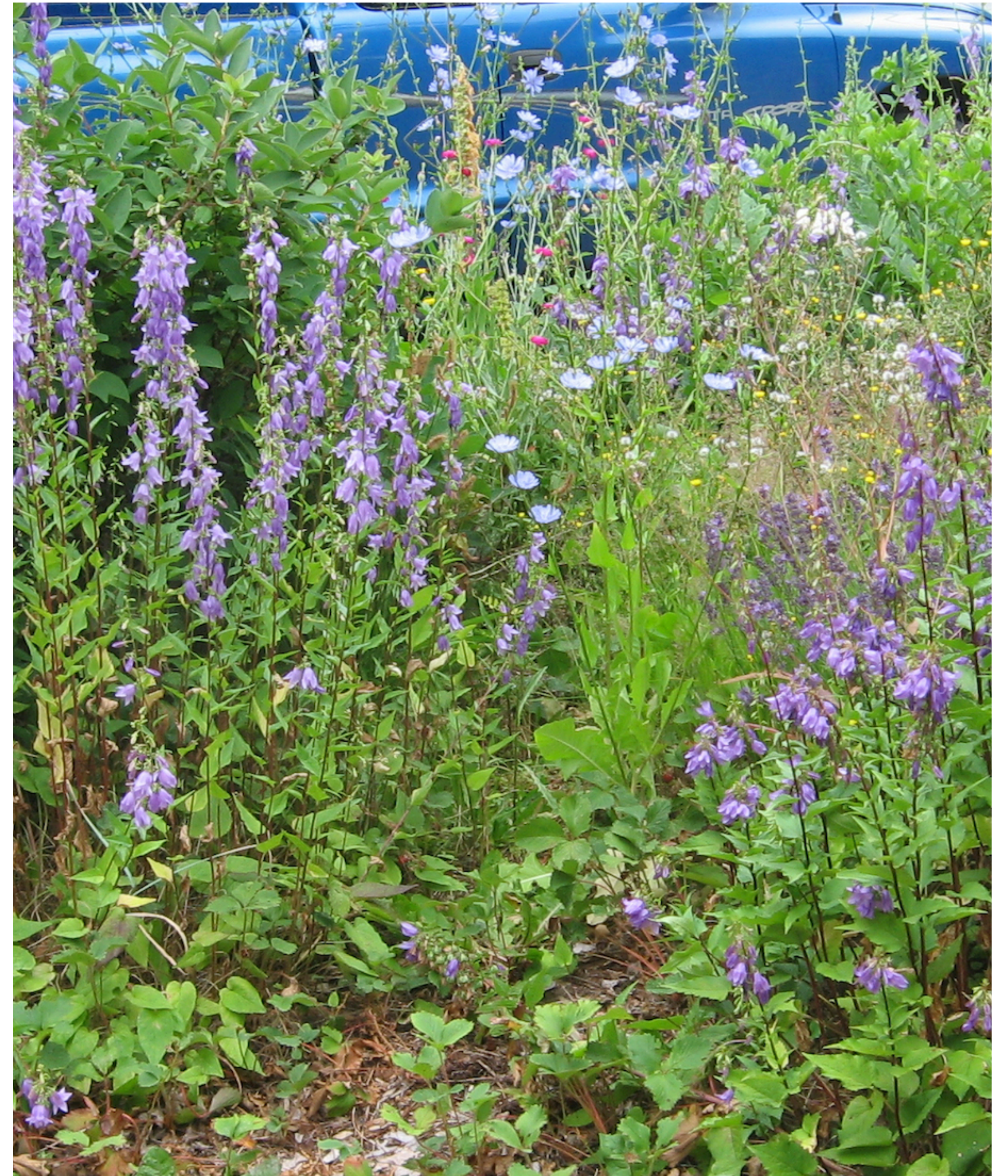
The bed was fairly weedy, but the real problem was those beautiful, bell-shaped flowers on spikes:

Campanula rapunculoides

Creeping bellflower

I let them go because I liked the flowers.

Then I discovered what it is.



Weed ID

Know what you're growing

Campanula rapunculoides

Native to central and southern Europe and west Asia. In some parts of North America it is an extremely invasive species.

The plant seeds abundantly (each plant can produce 15,000 seeds).

Horizontal stolons grow vertical storage tubers, which can regrow stolons, which in turn send up shoots at some distance from the storage tubers.

It spreads by underground rhizomes and produces deep, taproot-shaped tubers.



Weed ID

Know what you're growing

We took out that whole bed and an adjacent one to which the bellflower had spread.

And added new soil.



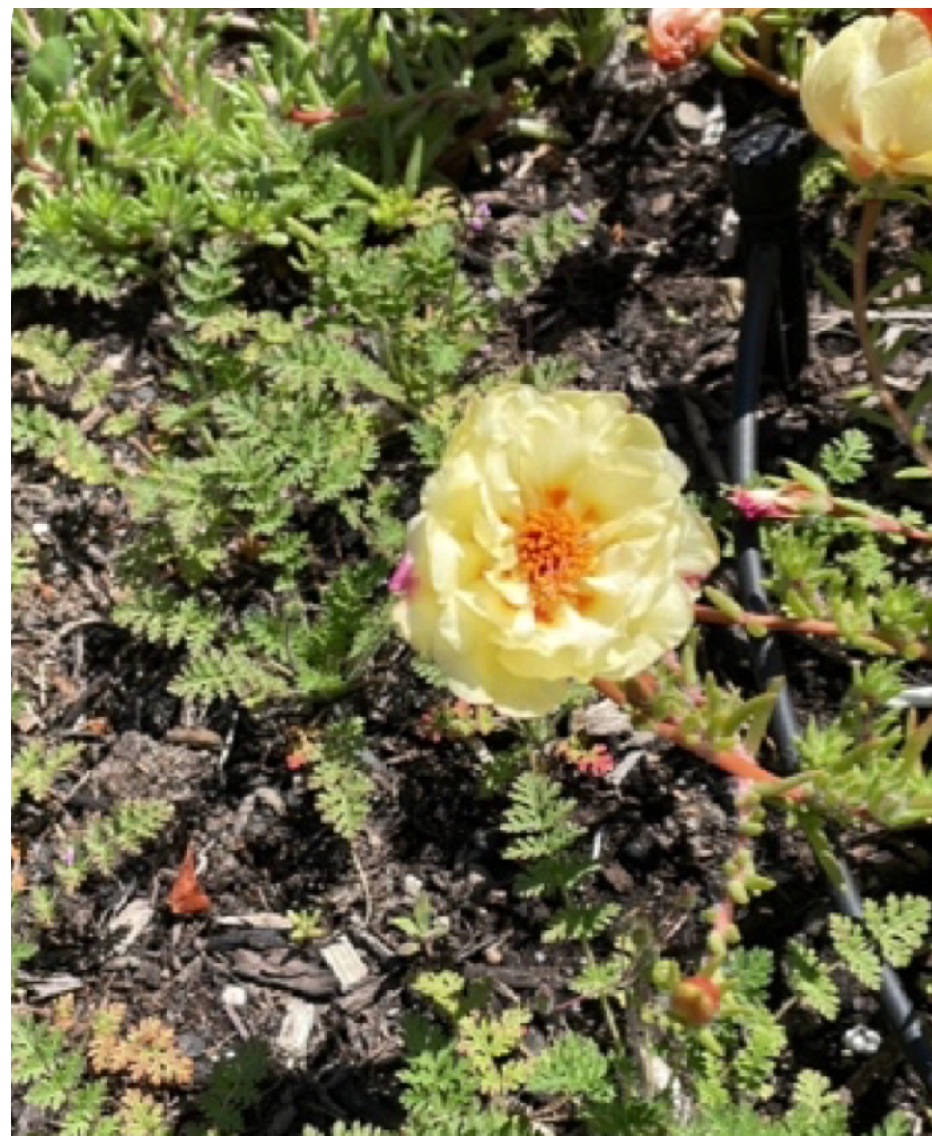
Weed ID

Know what you're
growing

The next year:



Noxious Invasive Non-native Naturalized Native



Portulaca grandiflora
Non-native



Digitalis purpurea
Naturalized



Ranunculus repens
Invasive



Achillea millefolium
Native



Jacobaea vulgaris
Noxious

Noxious

Definition: **harmful; injurious**

In BC, weeds are designated “noxious” by the “Weed Control Act”.

Regulations list 39 BC-wide species, 27 region-specific.

Land owners “must control noxious weeds growing or located on land and premises”.

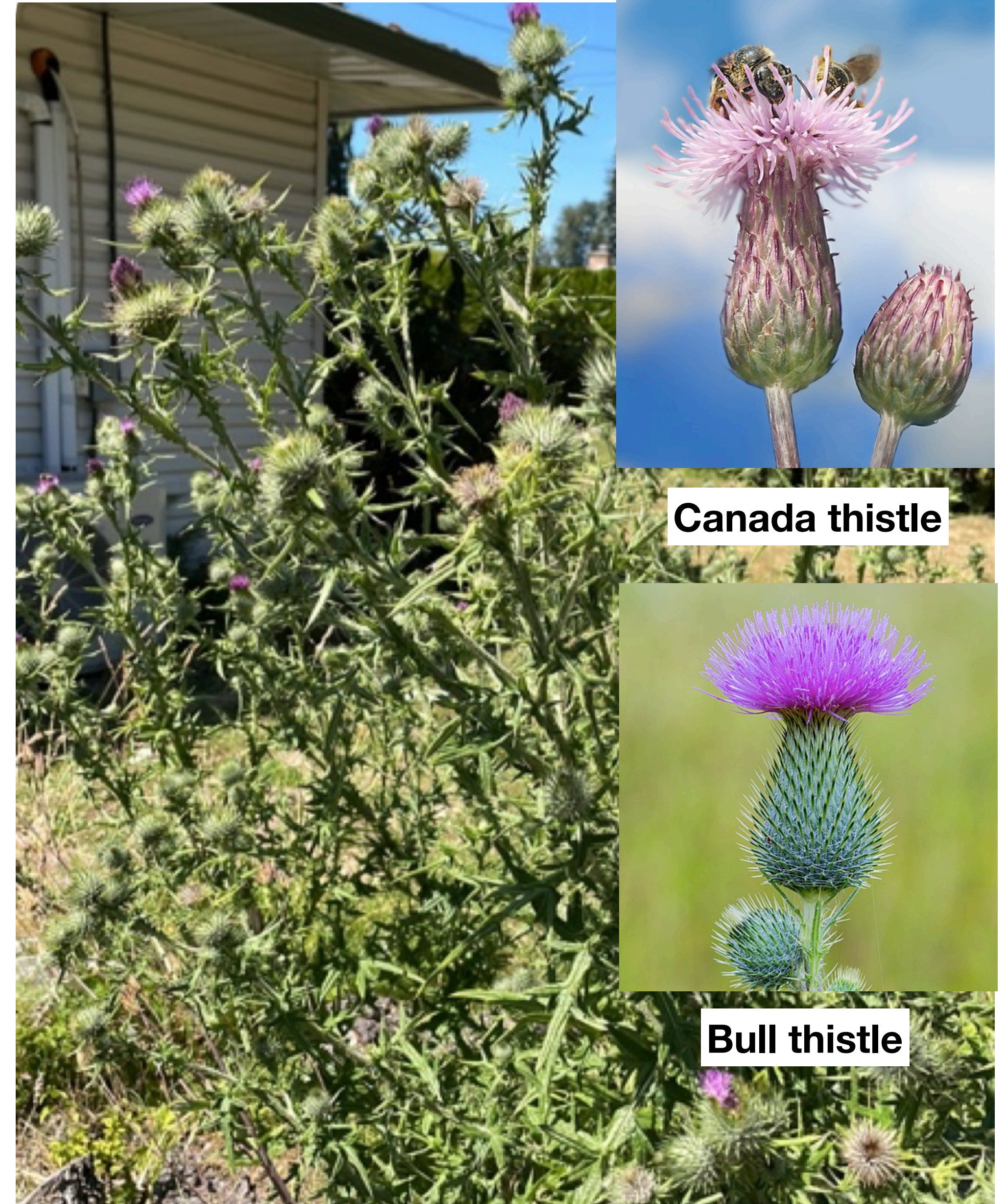


Invasive

Invasive species are non-native organisms that are 'from away'- that is, they have been introduced, either intentionally or accidentally, into the environment from other areas.

By definition, an invasive species is a non-native organism that causes harm to the environment, economy, and/or society.

Invasive Species Council of BC website
<https://bcinvasives.ca/>



Canada thistle

Bull thistle

Cirsium vulgare
Bull thistle

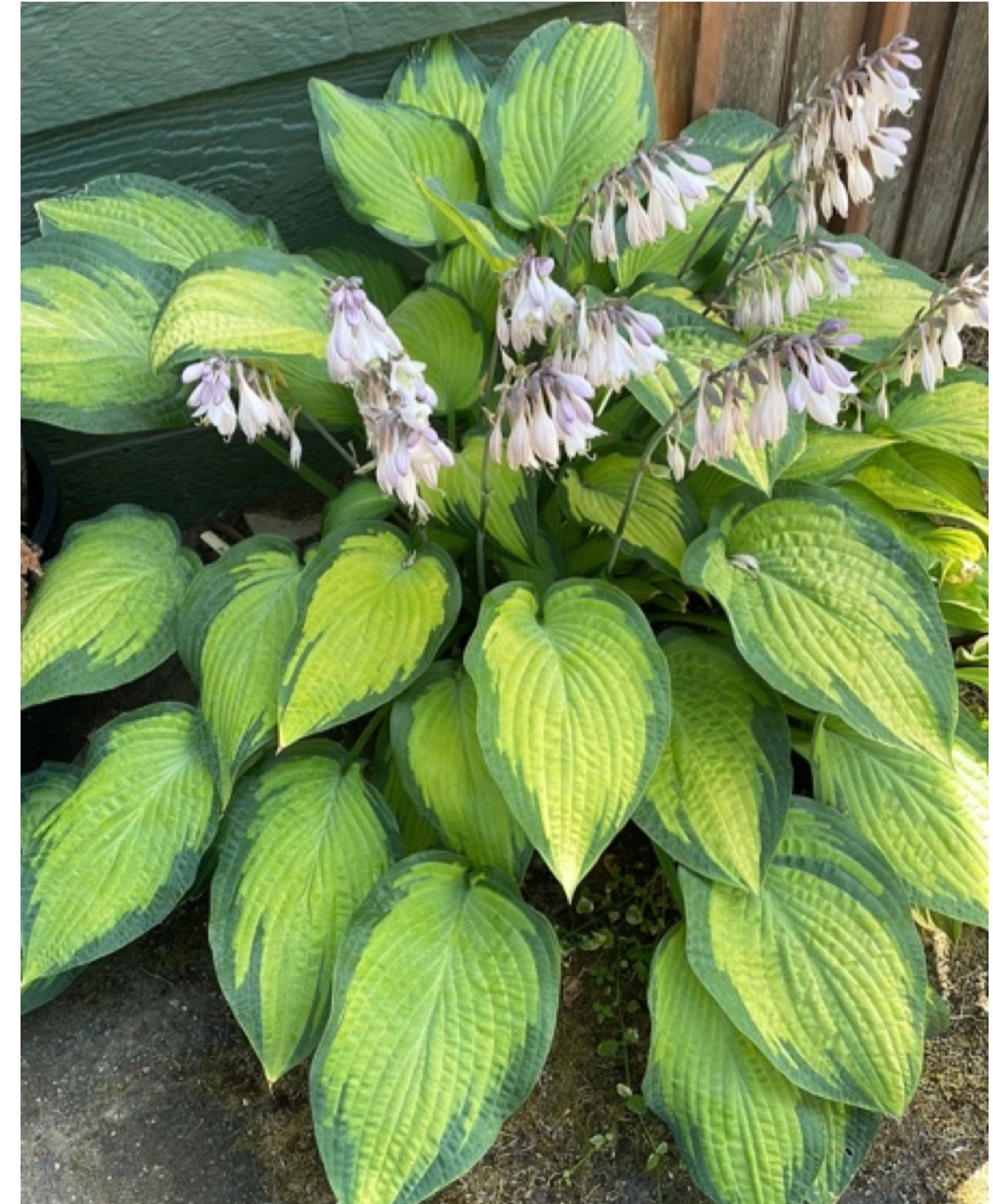
Non-native

All invasive species are non-native ('from away'), but not all non-native species are invasive. Non-native species, sometimes called **exotic**, **alien**, or **introduced** species are not invasive if they don't spread and cause harm to native species and ecosystems.

For example, many of our agricultural crops, like wheat and tomatoes, are non-native but only survive with care from people.

*Invasive Species Council of BC website
<https://bcinvasives.ca/>*

Hosta sieboldiana
Plantain lily
Originally from Japan



This is likely a 'Gold Standard' (yellow leaves with green edges). All species of hosta are edible, and are grown as vegetables in some Asian cultures; poisonous to cats, dogs and horses.

Naturalized

Naturalization is the process through which a species of exotic origin integrates into an ecosystem, becoming capable of reproducing and growing in it, and proceeds to disseminate spontaneously.

In some instances, the presence of a species in a given ecosystem is so ancient that it cannot be presupposed whether it is native or introduced.

Wikipedia

[https://en.wikipedia.org/wiki/Naturalisation_\(biology\)](https://en.wikipedia.org/wiki/Naturalisation_(biology))



Daucus carota
Queens Anne's Lace

Management

The earliest known weed control technology in 8000 BCE was the plow and hand-weeding. It stayed that way for the next 10,000 years until the 18th Century CE.

The name that stands out in the industrial age with regard to weeds is **Jethro Tull** (1674-1741), a gentleman farmer in England. He invented the grain drill and cultivation tools.

The grain drill did a simple thing; it planted the grain crops in rows. Before the drill, crops were hand-scattered over plowed fields. The weeder, the women and children, had to take time to make sure they were weeding just the weeds and not the crop.

Management

Mulch

Mulch is any substance that covers the soil surface

- **Organic**
 - Arborist chips
 - Wood chips
 - Leaves
 - Grass
 - Straw
 - Compost
 - Cardboard/newspaper
- **Inorganic**
 - Landscape fabric
 - Rocks



Management

Mulch

Why use mulch?

- Retain soil moisture
- Keep soil temperature consistent
- Add nutrients to the soil
- **Suppress weeds by blocking sunlight**



Management

Mulch

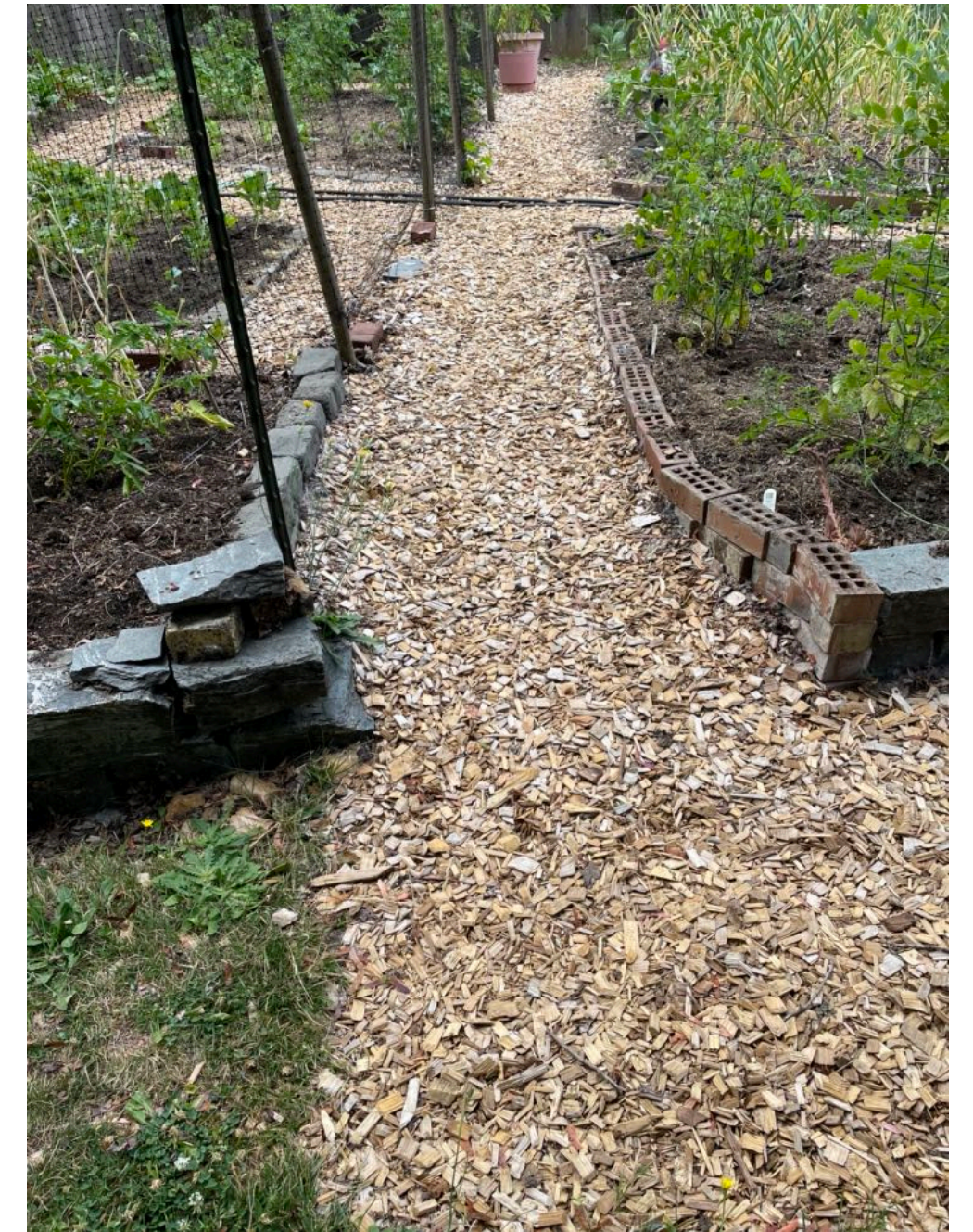
- I use wood chips for pathways
- Leaves or leaves mixed with grass on annual beds



- I don't generate enough leaves to cover all the beds, so have taken to mixing the leaves with fresh grass cuttings... Perfect.

- Red bark mulch on the perennial beds tends to grow weeds

- I would prefer to use arborist chips, but, despite asking, have never had any dropped off in my driveway.



Management

Sheet Mulch

Linda Chalker-Scott has a real hate-on for sheet mulching, as evidenced by multiple articles she has written.

“We already know that sheet mulches can be death to microbes, plant roots and animals living in the soil underneath. ...landscape fabric reduces carbon dioxide movement between the soil and atmosphere about 1,000 times more than wood chip mulches”

<https://gardenprofessors.com/landscape-fabric-a-cautionary-tale/>

- Newspaper and cardboard sheet mulches can be effective for annual beds if they are properly maintained.
- Sheet mulches can prevent water movement and gas exchange if they are too wet or too dry.
- Use site-appropriate mulch materials. Permanent, ornamental landscapes, non-maintained sites, and restoration areas are not appropriate locations for newspaper and cardboard sheet mulches.

<https://s3.wp.wsu.edu/uploads/sites/403/2015/03/newspaper-mulch.pdf>

Management

Cut or Pull?

It depends...

- **CUT** in a bed with lots of young weeds.
- **CUT** in a hard-packed, dry bed.
- Many of the young weeds in the potato bed shown here just came out, root and all.
- When cutting in dry soil, try to get below the top of the soil, into the tap root, rather than just cutting off the vegetation.
- You'll *will* have to do it again... and again... and again...

Keep your hoe SHARP!

I use an edge grinder to get a sharp edge and then a file to remove burrs.

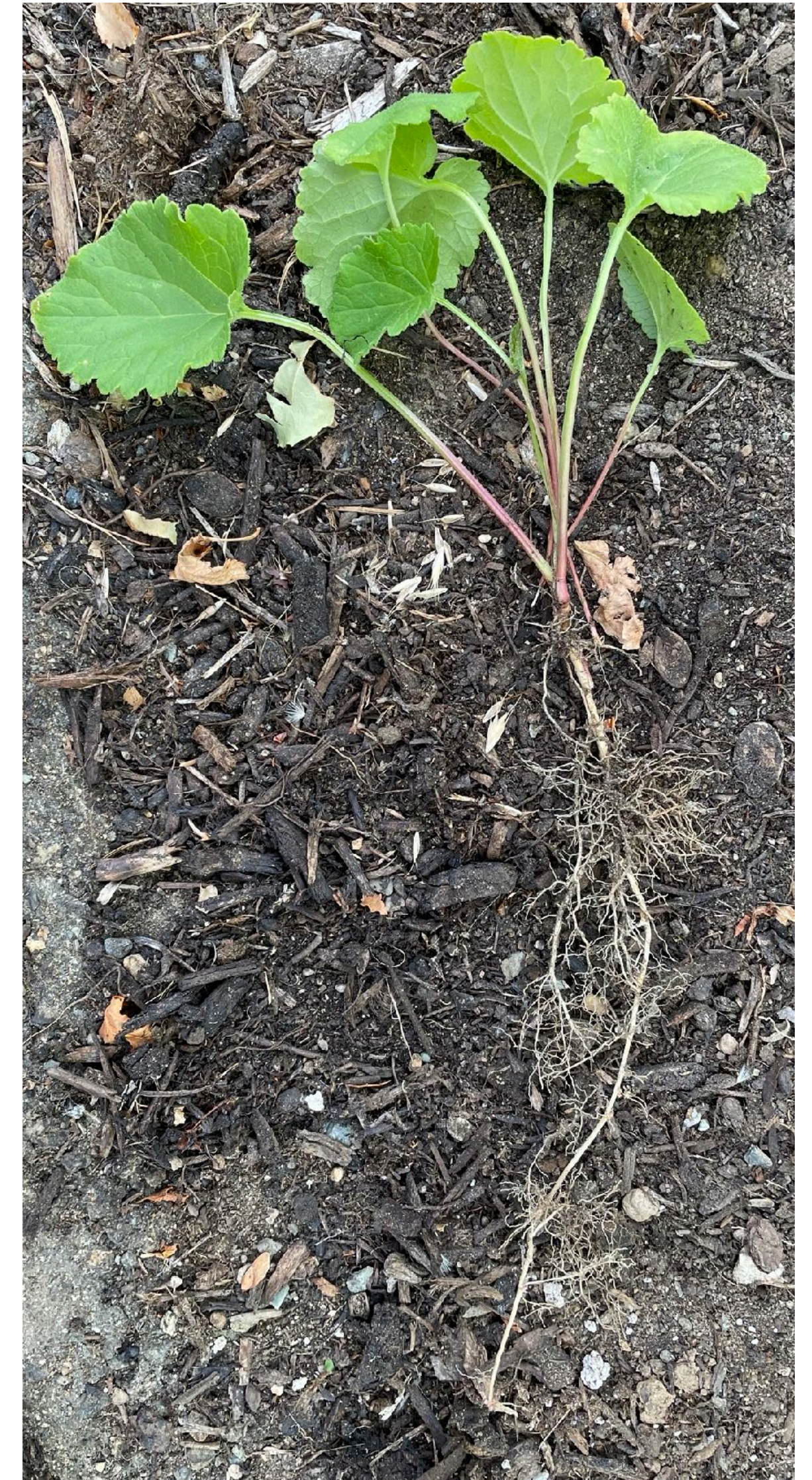


Management

Cut or Pull?

It depends...

- **PULL** in a bed with more mature weeds.
- **PULL** in a bed with loose soil; wet it down if needed.
- Pull from as close to the ground as you can get.
- Pull slowly with constant force; don't jerk it, because it will just break.
- You'll *will* have to do it again... and again... and again...



It can be very satisfying to feel... and hear... that taproot coming out of the ground



String trimmer; electric, of course!

Management

Cut and Pull



Hand cultivator



Weeder...



Fishtail weeder and detail



Weed knife



Trowel

Management

Potato Tale

Fast Forward seven weeks...



*I... umm...
never went
back.*

Remember the photo of me
hoeing in the potato bed?

Remember how I said you have to
do it again... and again... and
again?



...and then a few hours later:



Management

Potato Tale

**I did find the potatoes:
...as well as:**

Borago officinalis - Common borage
Calystegia silvatica - Bindweed/Morning glory
Chenopodium album - Lambsquarters
Digitalis purpurea - Foxglove
Euphorbia myrsinites - Myrtle spurge
Gnaphalium uliginosum - Marsh cudweed
Hesperis matronalis - Dame's rocket
Lapsana communis - Common nipplewort
Rumex obtusifolius - Bitter dock
Sisymbrium officinale - Hedge mustard
Solanum nigrum - Black nightshade
Sonchus oleaceus - Common sowthistle
Sorghum halepense - Johnson grass
Taraxacum spp. - Dandelions, etc.



Management

Perennials

- **Be aware of dangers**
 - Daphne Laureola sap
 - Giant Hogweed
 - Nettle
- **Don't seed-scatter**
 - Cut instead of pull (seeds)
 - Be persistent