Rethinking Lawns

A Guide to Lawn Alternatives

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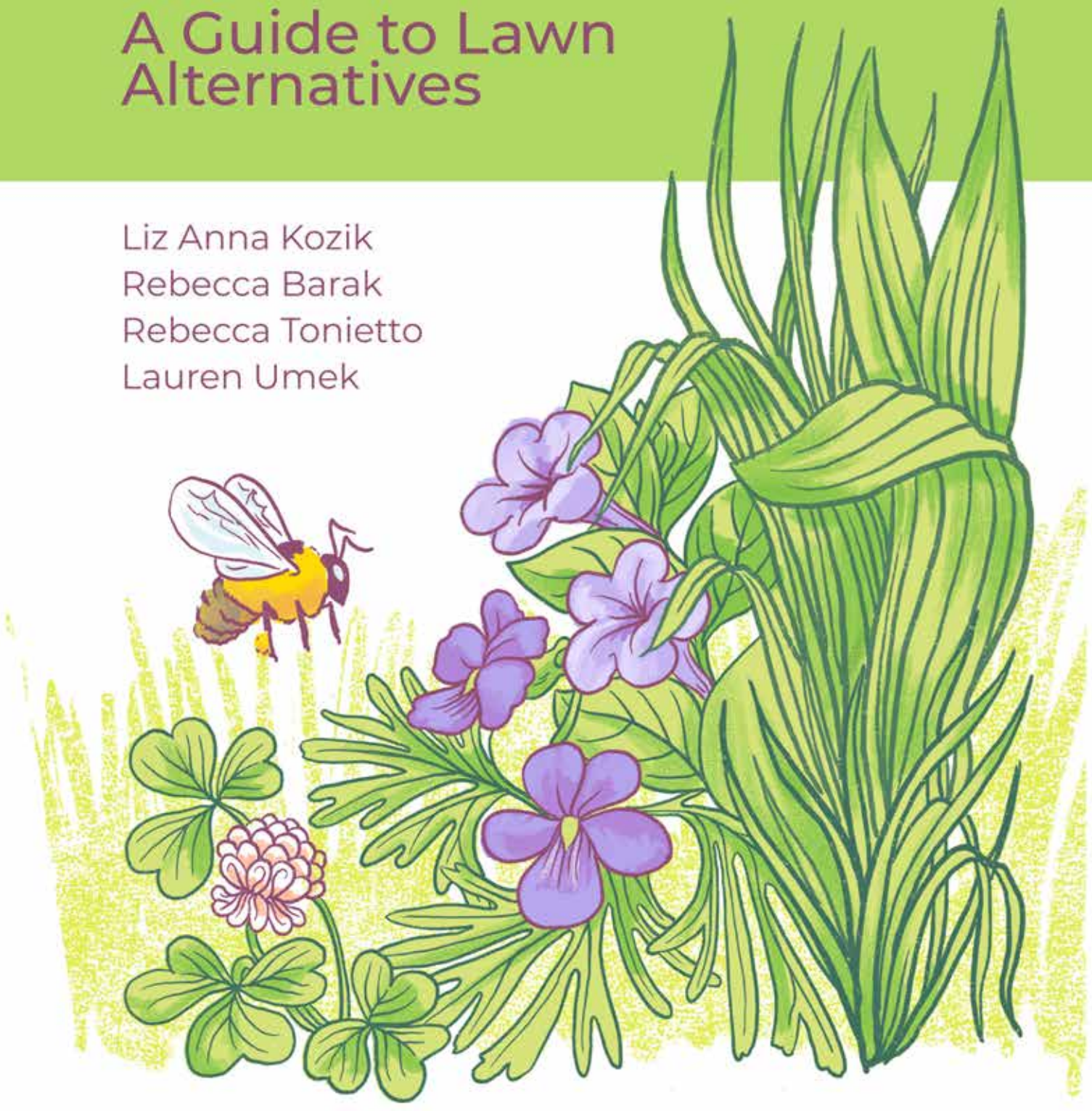

Rethinking Lawns

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Introduction

The Rethinking Lawns Project

This guide encompasses an area of active research, and we don't have all our answers yet. This guide represents what we have learned from three years of working on the rethinking lawns project, and decades of combined experience working in the field of restoration and studying native plants, pollinators, and soils.

To follow along with our work visit RethinkingLawns.org.

Introduction

The thing about lawns

Grass lawns are everywhere in North America!
Whether a yard, park, roadside, or business,
it would be weird to *not* see a lawn

When you add it all up, the US has:

The size of Illinois

OVER 50 MILLION ACRES OF LAWN

3 times the area of any irrigated crop

2x the area of National Parks in the lower 48

Americans use

3 BILLION GALLONS OF GAS

for mowing annually

3% of US gas consumption

Department of Transportation 2021

9 BILLION GALLONS OF WATER A DAY

for watering lawn

30% of all American home, business, & educational facility water use

EPA WaterSense 2016

53 MILLION POUNDS OF HERBICIDE

on lawn annually

14% of national herbicide use

EPA 2012

In total, lawn is an industry that self-reports to be

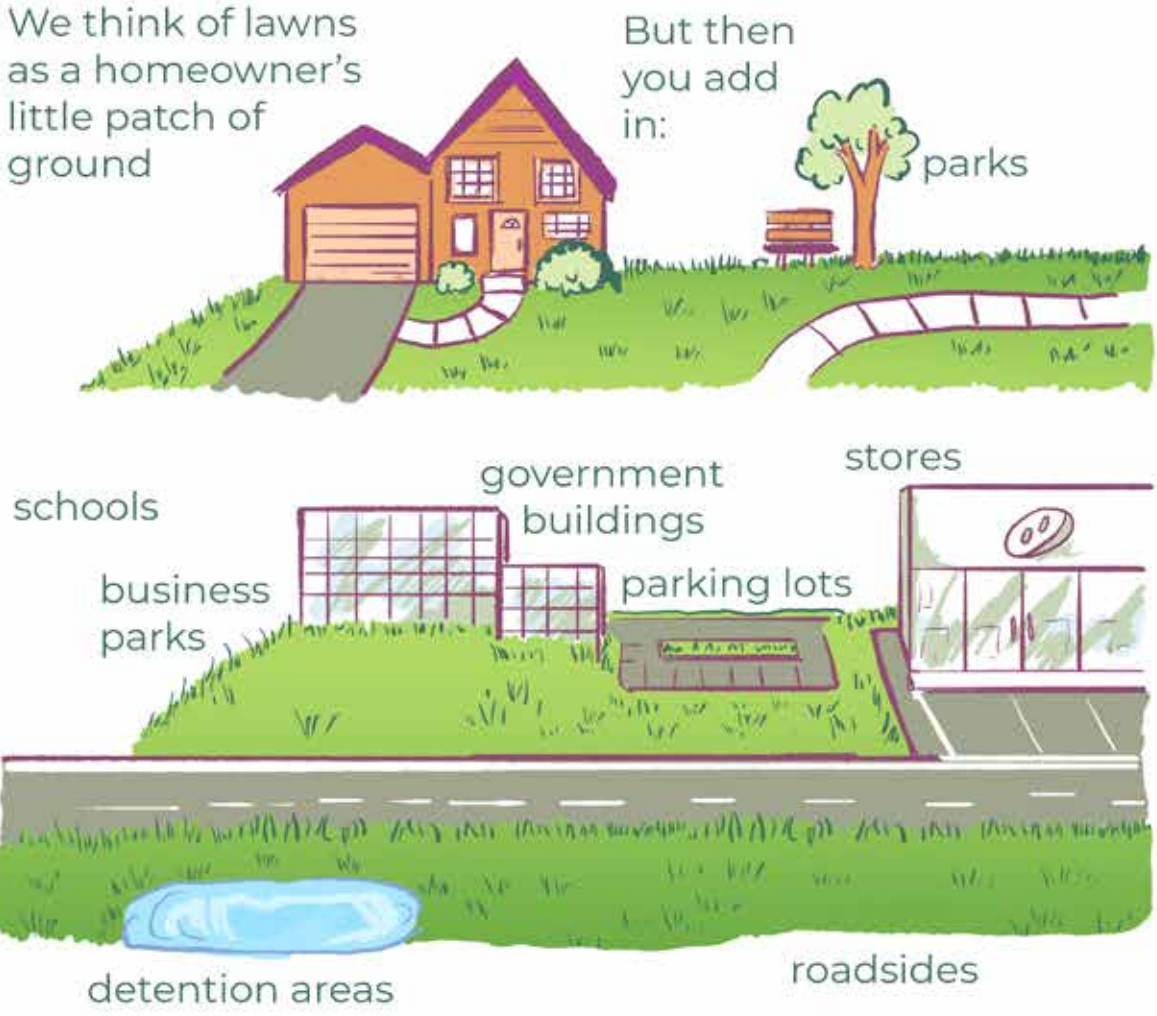
$60 BILLION DOLLARS

annually

National Turfgrass Research Initiative

Introduction

The Thing About Lawns



It all adds up to a lot of lawn!
A lot of which we don't even use!

We put all this work, money, time, and resources into a landscape that doesn't do us a lot of good

floods easy

doesn't hold up in heat

doesn't provide for wildlife

Introduction

What exactly is a lawn?

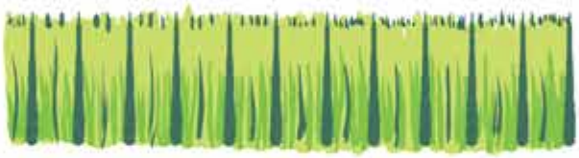
It may seem obvious, but defining what a lawn is and is not helps us imagine what lawns could become.

What traits do we like? What traits need to be fixed?

Introduction

Common traits of lawns

Height
On average, lawns are recomended to be kept at 1.5" - 3"

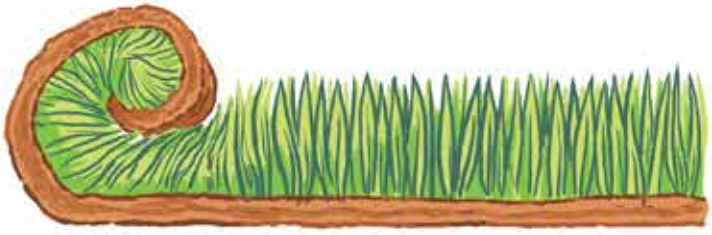


Uniformity
We're used to uniform carpets of green

Coverage
Patchy lawns are ugly lawns. It's much better if there's grass everywhere

Seasonality
Is expected to live through the heat of summer to the worst snows of winter

Installation
Easy to buy, easy to install



Maintenance
There's a societal acceptance of endless mowing for every lawn

Re-Imagining Lawns
What could lawns become?

If we were to make lawns into something new, what traits would make it a better landscape? How could we improve our lawns for people and for wildlife?

Here are just a few of the benefits we've studied so far.

Re-Imagining Lawns

What could lawns become?

Too Wet

While lawn grass roots are short and thin, plants with deeper roots can help water infiltrate the soil, reducing flooding.

Too Dry

Plants who evolved in areas with common droughts are used to brutal summers. No need to water these!

Carbon Storage

What if lawns did more to pull carbon from the atmosphere? These other plants do a better job at capturing C.

Wildlife

Introducing flowering plants into our lawns supports wildlife, from the smallest bees to birds and mammals.

Lookin' Good

Even lawn fans have to admit that the average lawn is pretty boring. It looks good to mix it up!

Lawn Alternatives

What options are out there?

Alternative Grasses
Instead of the species in common lawn mixes, try other grasses

Weedy Lawns
Lawn weeds left to thrive create food for pollinators and require less herbicide

The "Sedge Lawn"
Replace grasses with their hardy, native cousins: the *Carex* family of plants

Native Flowers
Some of our own local plants can grow low to create a meadow-like lawn

Why Not A Prairie?
In our region, a native prairie might be the best option for pollinators, water infiltration, & carbon storage.

Alternative Grasses
Changing lawn compositions

There's an assortment of different grasses out in the market that propose to improve our lawns by being better than standard, traditional turfgrass lawn mixes.

Buffalo Grass
Bouteloua dactyloides

A native of the Great Plains, it's best known as a hearty grass that requires less watering to stay green. Apparently a pain to get installed, but new cultivars are improving.

Eco/Low-Grow Fescue Grass
Festuca spp

A blend of fine Eurasian grasses, "low-grow" "no mow" grass mixes tend form dense sods that grow slowly, thus requiring less mowing. Tends to be a mix of sheeps, chewing, and red fescue.

Weedy Lawn Wins

Let your weeds grow

Some advocate for allowing & even planting mostly non-native weeds into your lawn. This has shown to benefit European honeybees, but our native bees prefer native plants.

Bee Lawns

Promoted by the University of Minnesota Bee Lab, bee lawns seed in mostly Eurasian species including selfheal, white clover, creeping thyme, & ground plum. Mixes can be purchased online in specialty shops.

Dutch White Clover

Trifolium repens

A nitrogen-fixing flower with attractive leaves that easily seeds into lawn, this non-native weed is popular as a lawn enhancement. Recomended as a turf addition, doesn't hold up solo in winter.

The Limits of Weeds

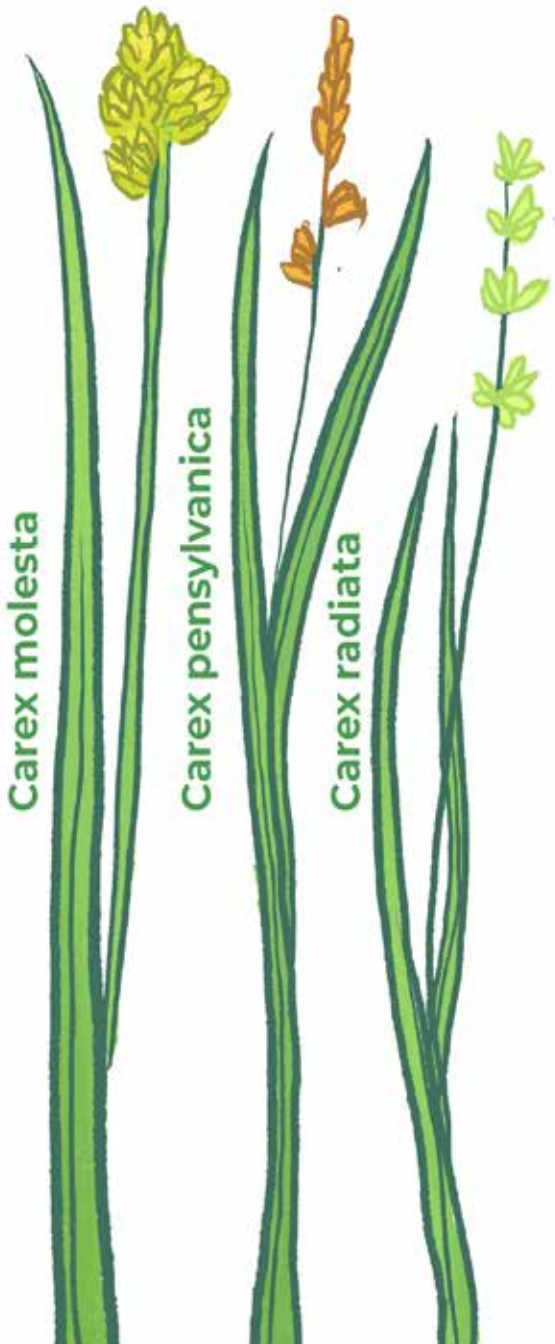
While flowering lawns present an optimistic fix for lawns, they have limited benefits biologically. If you want to make a healthy change for your local environment, native plants have a much bigger impact. Returning your lawn to the historic native plants helps with conservation goals in your area.

Also, if you really want to support healthy, native pollinators, you need to plant natives.

The Sedge Lawn

Carex takes the center stage

Similar looking to grasses, sedges are native grassy plants and, oh boy, there are *a lot* of them. The challenge right now is figuring out what ones work best for lawn alternatives.



Sedges we are experimenting with

Carex albicans
Carex blanda
Carex brevior
Carex eburnea
Carex jamesii
Carex meadii
Carex molesta
Carex pensylvanica
Carex plantaginifolia
Carex radiata
Carex rosea
Carex umbellata

Consider the other grassy plant: rushes

Juncus dudleyii
Juncus tenuis

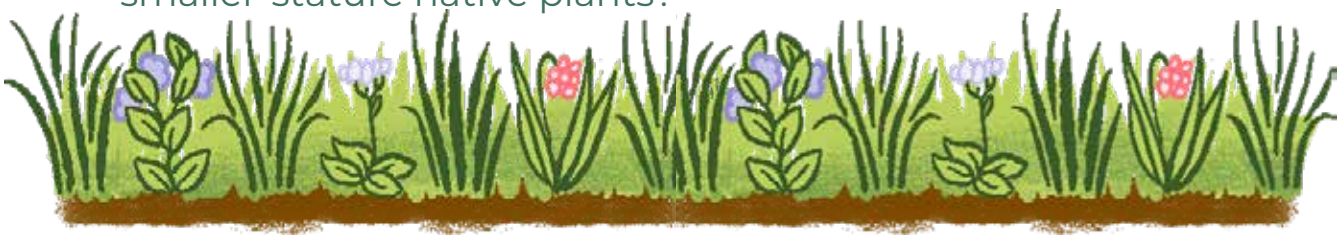
Other native grasses we are considering

Bouteloua curtipendula
Bouteloua gracillis
Eragrostis spectabilis
Koeleria macrantha
Schizachayrium scoparium
Sporobolus heterolepis

Native Flowers

Only the tiny prairie plants

Our native ecosystems are full of different flowering species that stay pretty short. What if we built our lawns from our smaller-stature native plants?



Green Year-Round
Jacob's Ladder
Polemonium reptans
Prairie Smoke
Geum triflorum

Spring Ephemerals
Spring Beauty
Claytonia virginica
Shooting Star
Primula meadia

Flowering Grass-likes
Nodding Onion
Allium cernuum
Stout Blue-eyed Grass
Sisyrinchium angustifolium

Classic Garden Flowers
Wild Petunia
Ruellia humilis
Prairie Violet
Viola pedatifida

Long-season flowering
Harebell
Campanula rotundifolia
Small Skullcap
Scutellaria leonardii

Self-spreading Florals
Wild Strawberry
Fragaria virginiana
Purple Poppy Mallow
Callirhoe involucrata

Tips for Buying Plants

Places to check out

Purchasing native plants is highly localized. A google search of "native plants [region]" will give you some leads. For the eastern tallgrass prairie region, some suggestions include:

The main source for seeds and a general fantastic resource
Prairie Moon Nursery
Winona, MN
prairiemoon.com

Other sources include
Possibility Place Nursery
Monee, IL
possibilityplace.com

Agrecol
Evansville, WI
agrecol.com

Natural Communities LLC
Lisle, IL
naturalcommunities.net

Friends and suppliers of the lawn alternatives project
Stantec Native Plant Nursery
Walkerton, IN
https://www.stantec.com/en/services/native-plant-nursery

Blazing Star Nursery
Owatonna, MN
blazingstargardens.com

Wholesale Only
Pizzo Native Plant Nursery
Leland, IL
pizzonursery.com

Natural Garden Natives
St Charles, IL
naturalgardennatives.com

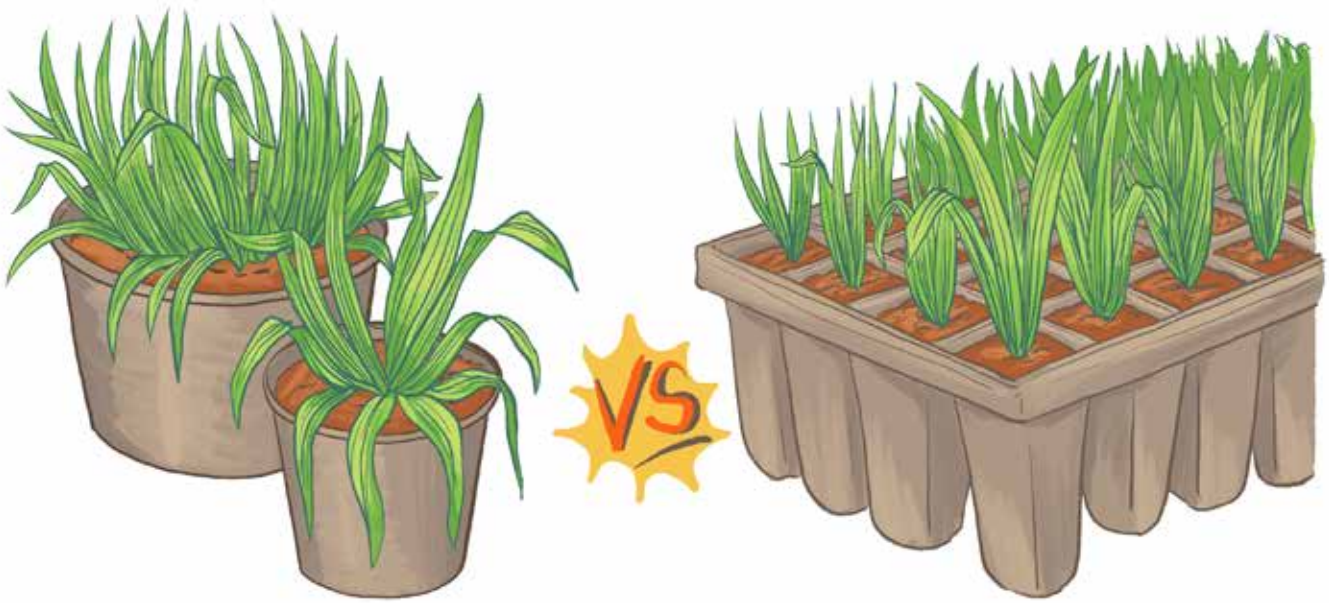
Your local nursery will have natives too! Just ask!
Also search "native plant sales" for pop-up local sales

Tips for Buying Plants

Pots versus plugs

Sourcing plants is one of the big challenges for native lawn alternatives. Local nurseries don't always have what you need and they are, on the whole, quite expensive!

Professional plantings are often done with **plant plugs**. When doing big planting jobs, plugs are the bulk, economical way to buy plants.



Pots

~$10-20/plant
Larger plants
Easy to get
Buy by plant
Limited options
Harder to plant

Plugs

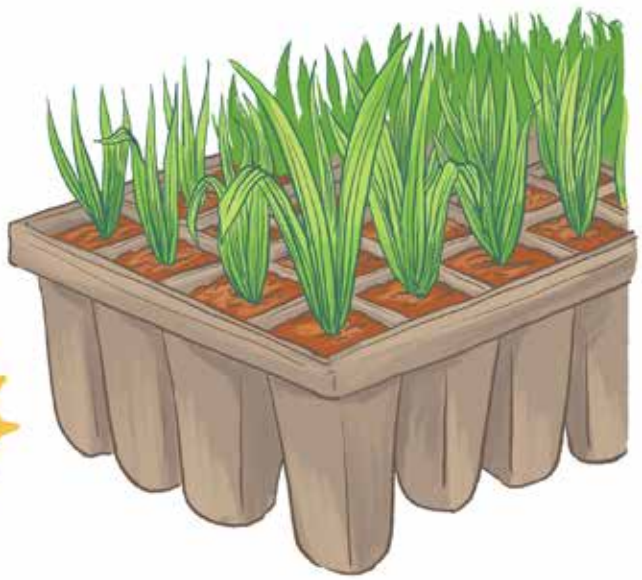
~$2/plant
Smaller plants
Order online
Buy by tray ("flat")
Big inventory
Easy to plant

Tips for Buying Plants

Seeds versus plugs

Looking at budgets, **seeds** are the most tempting option. However, seeds can be tricky.

Growing from seed requires a lot of faith, patience, and elbow-grease. Seedlings require watering & extra care. Many need to be planted before March. Anywhere you do seeds, you will get weeds. It's hard to tell seedlings apart from weeds, so you have to mow.



Seeds

~1¢/plant
Years until results
Easy to plant
Harder to weed
Intense site prep
Mowing required

Plugs

~$2/plant
Immediate results
More work now
Easier to weed
Less site prep
No mowing required

Installation Process

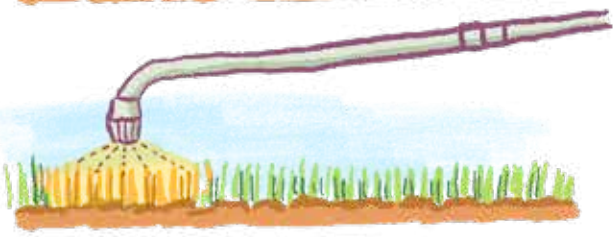
One way to do it

There's a huge variety of ways to get rid of lawn:
Sodcutting rips the top 2.5" of your lawn off
Solarizing covers the ground with plastic to superheat it
Smothering covers it with cardboard then woodchips
Herbiciding kills off the grass and weeds chemically
Each of these options has unique pros and cons.

For our experiment, we have settled on the process of:

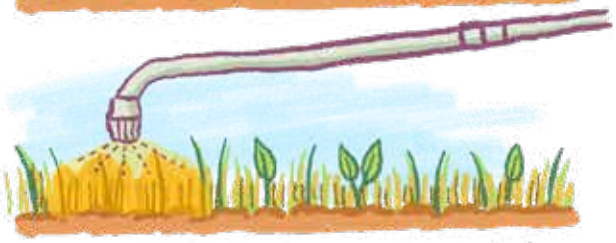
Mow extra short
As much as you can!

Herbicide
Do it careful and low



Rest for 2 weeks
Let the weeds come out

Herbicide Again
Knock back the weeds



Starting from bare dirt? start here!

Plant!
Finally!

Mulch
Full coverage is ideal

Water
At least the first 4-6 weeksl

Weedy Realities

The inevitable work

None of these options guarantee a weed-free lawn.
They're just a part of life in the outdoors.
However, there are some things you can do to reduce the amount of weeds you end up with.

Pre emergent herbicide
This kills off any seeds, preventing weeds

Plant closer together
The denser your plants, the less space there is for weeds
Try gaps between 6" - 12"

Plant a cover crop
Overseed fast-growing & temporary species like oats

Mulch each spring
Mulch decomposes, so add more!

Mow!
Knock back the weeds and your perenial plants survive

The Joys of Mowing

When mowing is good

Mowing once a week is part of the lawn we're trying to cut back on, but that doesn't make all mowing bad! Mowing is an essential tool for naturalizing landscapes.

Most weeds are **annuals**. This means they live for one year, produce seeds, and then die off.

Mowing deals with weeds by preventing new seeds. Meanwhile, most native plants are **perennials**, plants that live for multiple years, are used to being eaten or burned. Their deeper roots keep them alive even if cut down.

Mowing gives the plants we want time & space to grow and stops the weeds we don't like from spreading seed.

Choosing your new lawn

What's the right one for me?

There's so many options, it can be overwhelming! Some of these decisions can be made by looking at key variables:

Time - How long can you tolerate your lawn looking bad?
Seeds in particular take a long time to look good

Labor - How much work are you willing to put in to this?

Budget - How much can you afford to make it good?

Herbicide - Are you willing to use chemical controls?

Availability - What can you find for sale near you?

Local Laws - What are you legally able to do at home?

Height - How tall are you willing to tolerate?
Lawns - ~4" $ to $$$$
Prairies - 6"-12' $$ to $$$$
Alternatives - 6-18" $$$$ or 12-36" $$$

Choosing your new lawn

Small steps at a time

Sometimes small changes are the best way to start!
Here are some steps you can take to get things going.

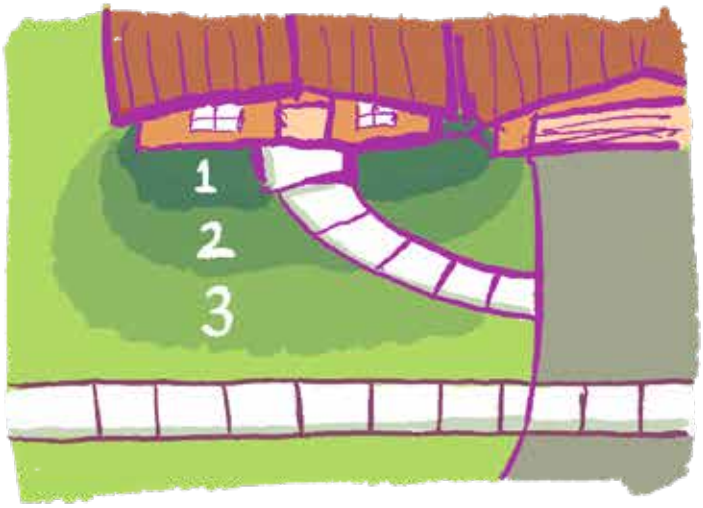
Lawn enhancement

Rather than entirely replacing your lawn, consider enhancing your turf with overseededing

Overseed with white clover, fine fescues, or try some natives like partridge pea

Plant small sections

Slowly build out a spot, rather than trying to tackle your whole yard at once



Plant just a border

An edge can be enough! Consider creating a border around existing flowerbeds

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