Ecoscaping for the Busy Professional

A Time and Money Saving Guide to Native Plant Gardening

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ISBN:
Edition: 2025

Disclaimer:

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Dedication:

This book is dedicated to my loving and supportive family: my wife, Laurie, who always goes above and beyond for all of us and is our rock, and my children, Michael, Sarah, and Ryan, who never cease to amaze me with how smart, kind, and creative they are. The rewarding yet busy life of being a full-time working parent inspired this book.

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Introduction

The idea behind ecoscaping is to increase biodiversity on your property. How nice would it be to wake up in the morning, go out to your patio with your cup of coffee or tea, and hear your water feature softly gurgling and the birds singing? You look out into your yard as the sun is rising to see beautiful flowers, trees, and shrubs. Off to the side is a rabbit munching on some clover. A mother bird flies by with a caterpillar in her mouth to feed her babies living in the nest box you installed. Butterflies start their day feeding on your flowers. In the evening, as the sun is setting, a gentle breeze blows. Crickets begin to chirp, and the fireflies come out to begin their nightly light show. Maybe you are lucky enough to hear spring peepers calling! It's this concept that I want to help you realize and build.

This book aims to save you money and time on something you love - ecoscaping! What is ecoscaping? Broadly speaking, it's landscaping that uses regionally native plants. The goal is to

use native plants to support local wildlife while beautifying your space. We will discuss why having a few non-native plants is okay, and the importance behind the fact that most should be native. Planting *invasive* non-native species, though, is never a good idea. Examples of invasive plants in the United States include, but are not limited to: Japanese barberry (Berberis thunbergii), bamboo (Bambusa), butterfly bush (Buddleja SP.), and burning bush (Euonymus alatus). These invasive species can spread quickly, harming local ecosystems by outcompeting native plants. Since wildlife has evolved alongside native plants, replacing them with non-invasive non-native species could lead to the collapse of regional ecosystems. To put it into perspective, it's like every grocery store and restaurant in a tri-county area around you closing about 5 locations at a time, every week over a decade or two, until none are left. What would you do for food? Our native wildlife worldwide is facing a similar situation as I write this book. That's where YOU come in!

This book offers a thorough overview of how to improve your property's beauty using native plants, how to protect the plants while young and vulnerable against wildlife, all while managing a busy, full-time schedule. This is gardening on the go! It is suitable for gardeners of all skill levels because it focuses on how to ecoscape when you’re short on time. Both beginner and experienced gardeners, as well as those new to native plant gardening, should find valuable insights here. We will cover some basic design principles, but won't go into detailed design strategies. The plant suggestions mainly pertain to species native to the United States, so you may need to substitute some with plants native to your area if you live elsewhere; however, the core concepts and methodologies are applicable anywhere in the world. This book combines general gardening advice with my professional knowledge of natural resources.

CHAPTER 1
The Importance of Ecoscaping

Often, beauty is the only consideration in traditional landscapes. This comes at the expense of the natural world and sometimes, our own health. In countless neighborhoods worldwide, perfectly kempt turf spans across large swaths of communities maintained that way by chemical fertilizers. The lawn begins to rely on the unnatural substance, resulting in weaker turf. The same non-native cookie-cutter foundation plants are used block after block in an unimaginative style. These traditional landscapes may appear neat and orderly, but environmentally, they are nearly void of what wildlife requires, or worse, even lethal. Birds find little to eat because their caterpillar food source has been killed, or they themselves eat the poisoned caterpillar and die. Pollinators wander, searching in vain, often dying after consuming pollen or nectar contaminated with neonicotinoids, and soils are damaged by constant inputs. Ever see a bee spinning in

circles on the ground and wonder why? She's been poisoned and it's affecting her nervous system. Amphibians are considered indicator species in part because of their skin. Because of their skin, their bodies easily absorb pollutants. Indicator species act like a litmus test for the health of a local environment. If you lose indicator species, it's usually a sign of a problem. How is the amphibian population around you? People are asking more: where are the birds? Where are the butterflies and other pollinators? Have you taken the time to really look around you? The answers are all around you. Those are some of the problems. Let's get into how we can correct some of these problems.

Ecoscaping provides a way to combine the beauty people want with the food, water, and shelter wildlife needs to survive. By landscaping with regionally native plants, we transform our outdoor spaces into beautiful, thriving ecosystems. Instead of just taking resources, we develop a symbiotic relationship with our outdoor space where we add contributions. Instead of repelling or killing wildlife, we

welcome it and help it flourish. Swap a non-native hydrangea for a native oakleaf hydrangea. Plant coneflowers and black-eyed susans instead of daisies. Instead of weed and feed, how about just the feed? Tired of cleaning up leaves or hauling grass clippings? Rake the leaves under your bushes and use the mulching feature on your mower to mulch the grass instead of collecting it. It will cut your chore in half, and the local wildlife would certainly appreciate it! Additionally, it would save your landscaper time and money if you use one. How about trading in your gas-powered leaf blower or lawn mower for an electric version? Your lungs would certainly appreciate it! Little substitutions add up to a big difference. What would our ecosystem look like if we made these changes? What would our ecosystem look like if whole neighborhoods made these simple changes? Rome wasn't built in a day, but its first brick was. Be one of those bricks and encourage your neighbors to join you. Together, we will build Rome!

It is widely accepted amongst the scientific community that we are in the sixth mass

extinction. We live in a world with a rapidly changing climate. Species loss and ecological disturbance are spiking, making every parcel of land managed for ecological function more critical than ever. At its core, ecoscaping is about working symbiotically with the natural world, with no losers and only winners. When we model spaces after the natural world, mimicking it, we create an ecosystem that can sustain biodiversity, enhance soil health, work with the natural water cycle, and sequester carbon. Regardless of whether you manage a suburban yard, an urban balcony, or live in the countryside, your choices affect the natural world. It's up to YOU to make it a positive one. An individual native plant landscape or garden plot may seem small compared to a national park, and you may ask yourself what difference your small parcel can make. Viewed as individual parcels, you are correct; however, collectively, these landscapes form a patchwork of habitats throughout neighborhoods and, with them, resilience against factors such as climate change. This book will lead you through the ideologies and best

practices of ecoscaping. You'll learn how to read your land and work symbiotically with its natural patterns, choose plants that flourish in your landscape while supporting wildlife. You will take the information provided and design a cost- and time-efficient landscape that supports an abundance of life while not taking an abundance of time.

Natives in the Ecosystem

Incorporating regionally native plants into your landscape promotes biodiversity, enhances soil health, conserves water, and sequesters carbon. Native plants offer many advantages; they are suited to the local environment and climate. Once established, native plants need less water and fewer additional soil nutrients, and they support wildlife by providing food and shelter. Native plants also increase aesthetic appeal, help decrease surplus rainwater runoff, clean the air, and provide shade, which in turn lowers nearby temperatures. Additionally, they can help reduce mental stress. The most vital native plants to focus on are keystone species. If you have a

smaller property like mine, it’s best to prioritize planting keystone species. What are keystone species? In simple terms, they are species that play a significantly more important ecological role than others. Keystone plant species often support greater diversity of animal species than other plants do.

Oak trees can host hundreds of insect species, while some other trees host fewer. To put that into perspective, a native tulip tree (Liriodendron tulipifera) hosts fewer than fifty species of caterpillars. This is why oaks are keystone species, while trees like the tulip tree are not. Caterpillars are a vital protein source for most birds and are essential for baby birds' diets. Focusing on keystone species in your plant selection is a very effective way to landscape with native plants. These species support the greatest diversity of animals. Some keystone species include: oaks (Quercus sp.), maples (Acer sp.), cherries (Prunus sp.), willows (Salix sp.), birches (Betula sp.), goldenrod (Solidago sp.), asters (Symphyotrichum sp.), coneflowers (Echinacea sp.), Joe-Pye weed (Eutrochium sp.), and black-

eyed Susans (Rudbeckia hirta). Did you know that goldenrod is a key species for adult monarch butterflies? People often hear about planting milkweed to help monarchs, and that's true, but milkweed mainly feeds monarchs during their larval stage. It's the nectar in goldenrod that best nourishes the adults. Plant both! A side benefit to milkweed plants is that they kill the invasive spotted lanternfly (Lycorma delicatula) when the insect feeds on them.

Plant various species to extend the bloom period for native pollinators and other wildlife. For example, in the United States zone 7B, you could plant eastern redbud (Cercis canadensis), woodland phlox (Phlox divaricata), and Virginia bluebells (Mertensia virginica) for early spring blooms. For mid to late spring, consider plants like blue wild indigo (Baptisia australis) or columbine (Aquilegia sp.). During late spring and early summer, black-eyed Susans, bee balm (Monarda sp.), wild geranium (Geranium maculatum), cardinal flower (Lobelia cardinalis), and goldenrods are good options. Some late summer to autumn choices include joe-pye

weed (Eutrochium purpureum), milkweed (Asclepias sp.), New England aster (Symphyotrichum novae-angliae), and blazing star (Liatris sp.). Some of these seed plants, such as black-eyed Susans and coneflowers, also serve as excellent winter food for birds. Plants like red twigged dogwood (Cornus sericea), American holly (Illex opaca), and winterberry holly (Illex Verticillata) provide winter interest while offering food and shelter for birds.

CHAPTER 2
Core Principles of Ecoscaping

Before exploring design choices and plant lists, it's essential to understand the underlying ideologies that go into ecoscaping. These concepts aren't written in stone, but rather perspectives through which you can view your land. They help guide you to see your land as a small part of a larger natural ecosystem, not just a gardener. It's where you bridge your gardening

skills with your knowledge of natural resources. You are the steward of the land; what does the land do already? Does it have natural wet areas, or is it in full sun? What are some things you can do to help the land with its natural processes? Perhaps it was a wild meadow at the turn of the century, and it needs some invasive plants removed and wildflowers and grasses installed in their place.

Work with nature

Standard landscaping practices often move counter to what the natural environment requires. Standard practices encourage cleaning up leaves on your property, removing “weeds” with pesticides, altering soil chemistry, and encouraging plants to grow where they wouldn’t naturally grow by essentially babying them with external nutrients and watering regimens. Not only are you harming the land, but you're also spending many hours of yard work! This approach results in higher costs and wastes valuable time. In contrast, ecoscaping changes this mindset. Instead of trying to subdue the land

and bend it to our will, it teaches us to work symbiotically with it.

As much knowledge as can be acquired from books, the internet, and other sources, it's nature itself that makes the best teacher. Through books, you will learn concepts and ideas, but nature will teach you how things will work in her microclimates, and some will flourish while others die. Each outcome will provide you with feedback you can apply to future efforts. Think about what the land might look like if it were to be left alone—would it naturally be a meadow, a forest, or a wetland? Let that influence your design. When you mimic the land's natural tendencies, everything falls into place. By working with the land, you require fewer inputs, experience less frustration, and see more abundance. This means spending less time and money on maintenance. This approach promotes a more sustainable and healthier environment.

Right plant, right place

By selecting plants native to your property, you create a resilient ecosystem that requires less

effort compared to traditional landscapes. This approach is both ecological and economical; you spend less money and time while your plants live longer, healthier lives. Time is a valuable and limited resource, especially for busy professionals. We aim to use our time wisely, and by planting the right plant in the right place, we achieve that efficiently. Utilizing native plants not only saves effort and resources but also supports local wildlife and maintains the natural beauty of your surroundings.

Shady Areas

Shady areas add a different, sometimes challenging element to the garden. In places like this, small trees such as northern spice bush (Lindera benzoin) thrive in partial shade and can do well in deeper shade, although they will produce fewer berries. Be mindful that if you want spicebush berries, you will need at least one male plant and one female plant. Regardless, the spicebush swallowtail caterpillar uses the plant's leaves, so you will still be benefiting nature. Another fan of partial shade is

common witch hazel (Hamamelis virginiana). Common witch hazel will produce beautiful yellow flowers from about October to December. Mountain laurel (Kalmia latifolia) is a great small tree for shady areas and can even tolerate sunny areas. Placed in sunny areas, though, the plants may sustain leaf scorch. Leaf scorch typically occurs when the edges of leaves singe from the sun and heat—mountain laurels like slightly acidic soils that are a little damp.

Spicebush caterpillar on northern spicebush, 2020

Ferns such as the ostrich fern (Matteuccia struthiopteris), Christmas fern (Polystichum acrostichoides), and cinnamon fern (Osmunda cinnamomea), for example, do not add color to a shady garden but do provide texture and

character to the space. For those living in the southeastern United States, Oakleaf hydrangeas (Hydrangea quercifolia) are a good shrub choice for partial-shade areas. Flowers such as woodland phlox (Phlox divaricata), spiderwort (Tradescantia ohiensis), and violets (Viola sp.) make great shade flowers. A few shade-loving flowers for slightly damper areas include Virginia bluebells (Mertensia virginica), golden Alexander (Zizia aurea), and trillium (Trillium sp.). For shady, drier areas, you could plant red columbine (Aquilegia canadensis), rue anemone (Thalictrum thalictroides), tall bellflower (Campanula americana), Amethyst shooting star (Dodecatheon amethystinum), sweet joe pye weed (Eutrochium purpureum), or wild geranium (Geranium maculatum). For partially shaded areas like woodland edges, consider planting woodland sunflower (Helianthus divaricatus).

Soil as a living system

Soil is more than just dirt. It's a living system filled with fungi, bacteria, insects, earthworms, and

many other organisms. This underground network cycles nutrients by breaking down organic matter and returning nutrients to the soil. Soil holds water and provides the foundation for healthy plants. Healthy soil is as important for plants as a foundation is for a house. Many landscaping practices treat soil as a lifeless medium that needs artificial inputs. When you nourish soil life with compost and mulch, nature does the work for you. Ecosystems flourish when the soil is healthy. Feed your soil and avoid using chemicals! If lawn weeds are a problem, mow more often.

Water as a precious resource

In the natural world, water doesn't run off roads and into sewers. Instead, it seeps into the ground, replenishing aquifers and supporting plants. Vegetation and the forest duff layer naturally slow water, giving the land time to absorb it. When there are too many hard surfaces, water has nowhere to go, increasing the risk of floods. Through ecoscaping, we aim to mimic the natural water cycle. Instead of directing water

into sewers, we slow it down to let the land absorb it. Rain gardens, bioswales, permeable paving, and gentle land contouring help landscapes absorb water more effectively. This also involves planting for water realities by choosing drought-tolerant species in dry regions, flood-tolerant plants in wetter areas, and reducing reliance on irrigation whenever possible. Additionally, implementing green infrastructure and water-conscious landscaping practices can further improve water absorption and reduce runoff.

Diversity creates resilience

Many landscapes use only a few plant species. This limited mix of plant species creates monocultures. Monocultures are fragile. A single pest, disease, or climate shift can wipe out an entire species. In nature, variety builds resilience. Incorporating a diverse mix of species ensures that if one struggles to survive, the rest thrive. Case in point, if a street were lined with ash trees, the emerald ash borer could move in and wipe out every tree on the block. If the same street

had a mix of ash trees, maple trees, and oak trees, only some trees could be lost, the ashes, but the rest would be okay because the emerald ash borer would not attack them.

Planting a variety of plants attracts a diverse range of wildlife. Together, they provide habitat throughout the year for animals. Incorporating different plants creates beauty all year round, with spring flowers, summer foliage, autumn color, and winter structure. Aim to develop communities of plants, not just groups of individual specimens. What does this specifically mean? It means that instead of scattering native plants randomly across your space, you create a “neighborhood" where each plant supports the others. For example, in an oak-dominated community or "neighborhood," oaks would serve as the canopy layer, followed by shrubs like Northern spicebush. Beneath this, you’d include a ground layer possibly consisting of Ostrich fern and Virginia bluebells. These plants have naturally established themselves together in the wild and form a community. In

ecoscaping, our goal is to mimic this natural arrangement.

Maintenance through ecology

Standard yard practices include regular mowing, fertilizing, spraying, and pruning to maintain a neat look. Ecoscaping shifts maintenance to natural processes. Put nature to work. Instead of using mulch, opt for leaf litter, which is both free and effective. Rather than spraying pests, establish a predator-prey balance and let natural predators like dragonflies, ladybird beetles (commonly known as ladybugs), and birds handle pest control. Earthworms aerate the soil naturally. Lawn edges can be transformed into meadows. This might mean leaving only turf pathways or keeping most of the lawn and bordering it with native wildflowers. You choose what works best for your situation.

By planting in layers, you help prevent soil compaction because these plants slow down rainfall. The canopy layer or tree layer begins the rain's slowdown, followed by shrubs, and finally the herbaceous or flower layer, which should

slow the rain to just steady, gentle drips. When rain hits the soil at a constant and heavy pace, it compacts the soil. By utilizing the plants, they slow the rain enough to keep the soil loose. Using these eco-friendly tips doesn't mean ecoscapes don't need maintenance; they do, but far less than traditional landscapes. Implementing these tips shifts your role from controller, where you try to constantly subdue landscape elements, to steward, where you manage the landscape. As a land steward, you observe what the space needs, make some adjustments, and guide the landscape toward your goal rather than trying to dominate it.

Bringing the principles together

These guiding ideologies are interconnected. Plants placed in the right spot can thrive once they are established, even without irrigation. Establishment typically takes about one to three years. Healthy soil reduces the need for fertilizers because it is rich in the nutrients plants need to grow. Having a variety of plants attracts beneficial insects, which act as a natural pest

control system—natural checks and balances already in place.

Ecoscaping is more about embracing a broader philosophy than chasing perfection. Look around: how is nature dealing with various challenges? When you see your space as part of a larger ecosystem, you unlock potential that traditional landscaping can't. Conventional landscaping often involves unnecessary work, which ecoscaping not only reduces but also thrives without.

CHAPTER 3
Understanding Your Site

Before planning an ecoscape, take the time to study your space and understand its unique features. Every space is different and has its own story to tell. Ecoscaping begins with careful observation. Where is your southern exposure? Are there low-lying or wet areas? Consider what would happen if you invested time and money into installing a beautiful pollinator garden, only to discover after a rainfall that your garden is in a

low spot where water ponds. That would be frustrating, to say the least. Observation is essential! Observe your space thoroughly to identify potential challenges and opportunities before starting your project.

Studying the land

Begin by taking time to observe your land carefully. Walk around your property through different seasons, weather conditions, and times of day. Familiarize yourself with your space. Notice which areas receive morning sun and which get afternoon sun. Identify shaded spots and how long they remain shaded. You might want to avoid placing a sun-loving plant in a shady area. Check if water pools in your yard after rain. Such spots aren't ideal for a pollinator garden but are perfect for a rain garden. Are there areas that stay dry? Those might not be the best location for a rain garden either. Determine which direction the wind usually blows from—you might consider adding a windbreak. These weather patterns influence which plants will thrive and where. For example,

a southern exposure can become very hot in summer, making it ideal for prairie flowers, while a low-lying area that stays damp is great for blueberries and ferns.

Soil: The foundation of life

It's important to understand your soil. Different plants prosper in different soil textures and nutrient levels. Soil texture greatly affects drainage. The sandier the soil, the quicker it drains. Clay soils, on the other hand, drain more slowly. What kind of soil do you have? Scoop some soil and rub it between your fingers. Is it sandy and gritty, silky like silt, or sticky like clay?

Test your drainage! To do this, perform a percolation test, also known as a perc test. First, dig a hole about 1 foot deep and around 7 to 8 inches wide. Then, fill the hole with water to the top and let it drain completely. Next, fill the hole with water again and measure the water level using a measuring tape or yardstick. After thirty minutes, measure the remaining water in the hole. Calculate the rate of water absorption by dividing the volume of water drained in thirty

minutes by the difference between the starting water depth and the final water depth. Upland plants prefer soils that are a bit drier; wetland plants thrive in slow-draining soil. Be sure to get your soil tested. For example: 30 ÷ (12-inch start depth – 8-inch final depth) = 30 ÷ 4 = 7.5 inches per hour. The ideal drainage rate is one to two inches per hour. A soil test can also reveal the pH and nutrient levels. Many local and state extension offices or garden centers offer affordable testing kits.

Microclimates

Climates can vary significantly from one area to another. It might be rainy in one part of town, but sunny where you are. Conditions can differ considerably even within your own yard. For instance, the wall of your foundation might reflect heat, creating a warm microclimate; meanwhile, a cluster of trees or tall shrubs can provide shade that is about 10°F cooler than sunnier spots. A low-lying area might hold frost due to a slight temperature difference. These small microclimate variations open up many

options for diverse plantings. By designing with microclimates in mind, you can expand your landscaping choices—such as planting herbs and other heat-tolerant or drought-resistant plants near a south-facing wall. Shade-loving perennials, such as ferns and ephemeral flowers, can flourish under a tree canopy, while moisture-loving plants thrive in rain gardens. Incorporating microclimates into ecoscaping makes your outdoor space more environmentally friendly and visually appealing.

Existing Features and Assets

Before adding new plants, evaluate what you already have. Existing mature trees are an invaluable resource; they provide shade, store carbon, create habitat, absorb rainwater, and increase home value. Work with them, not against them. Existing trees serve as great starting points for the layering system. Hardscape elements like fences, patios, sheds, and walkways influence wind, shade, and water flow. Do birds and other wildlife visit? Are pollinators already frequenting your property?

Which animals depend on this space? How can you enhance these assets to attract more wildlife?

Some features may pose challenges. A few examples include an invasive thicket of oriental bittersweet (Celastrus orbiculatus), compacted soil caused by minimal or no canopy layer, and stormwater runoff from a lack of vegetation that slows it down, along with permeable surfaces that could absorb it. However, others present opportunities; perhaps you have a hill that could be transformed into a rock garden or an area that frequently stays wet, which could be converted into a pond or rain garden.

Local Ecosystems as Teachers

Nature itself is the best teacher for creating your ecoscape. In prairie or meadow areas, tall grasses, wildflowers, and scattered shrubs offer structure and resilience because trees are absent. One purpose of meadows is to add nutrients to the soil and create open space for pioneer species to establish. These pioneer species such as birch trees, pave the way for hardwood trees to grow

by living short lives, dying, and decomposing on the forest floor, enriching the soil. In a forest ecosystem, you find layers of trees, shrubs, ferns, and flowers. In desert regions, drought-tolerant plants can thrive in conditions of scarcity. Nature has already tested what works and what doesn't. Observe your surroundings and let nature guide your design.

The Gift of Observation

Before reaching your destination, you must first understand your current position. Create a basic map of your existing site, even if it's just on graph paper. Mark the location of your house and other buildings are. Mark existing structures. Include sunny and shaded areas, as well as wet and dry zones. Be sure to add existing trees and plants. This map will serve as your baseline for design. You will later add structures, hardscape, and ecological features like rain gardens or meadows as you progress.

CHAPTER 4
Designing With an Eco Mindset

Nature thrives when habitats and ecosystems are connected. A single yard or porch might seem small and trivial, but when connected with adjacent yards, parks, or natural areas, it becomes part of a larger mosaic. In the natural resource industry, we call this a wildlife corridor. It's nature's equivalent of a human highway system.

Enhance biodiversity in your space by planting a variety of native species. Include regionally native trees, shrubs, grasses, ferns, and flowers. Replace lawn medians with native flowers and grasses along fences and sidewalks. Plant hedgerows of regionally native shrubs to serve as corridors for birds and other wildlife. Select different flowering species with staggered bloom times throughout the year to nourish wildlife from spring to fall. Your space becomes part of a larger ecological patchwork.

Water As a Design Element

Instead of viewing water as waste or an annoyance to be disposed of, develop systems to capture and reuse it. Instead of using paid water for watering your plants, consider collecting and using free rainwater. There are many ways to gather rainwater, including rain gardens, bioswales, ponds, wetlands, and rain barrels. Rain gardens are shallow depressions filled with native plants that thrive in moist conditions and absorb rainwater. Bioswales are gently sloped channels designed to slow and filter runoff, and they are becoming more popular in cities. Rain barrels collect water from gutters for reuse in watering plants. Ponds help absorb rainwater and attract various wildlife.

If you have the space, I strongly recommend installing a pond. In most regions, a pond at least 3 feet deep is suitable, especially in areas with winter, to prevent it from freezing completely. This depth also benefits frogs of various species, no matter where you are. The pond should be about 3 feet wide or wider if possible. Treating water as a valuable resource

helps prevent flooding, recharges groundwater, and supports healthy plant communities. While no single water retention system can absorb all stormwater, increasing their use throughout neighborhoods can significantly help reduce flood damage.

Shrinking the Lawn

Typical lawns are often empty ecological spaces because they don't support wildlife, but they do provide a place for children to play. You have a few options to make your lawn more wildlife-friendly if you choose to keep some.

While not native, planting clover (Trifolium sp.) or crocuses (Crocus sp.) in the lawn will at least provide a food source for pollinators; it’s a good compromise. Additionally, clovers are quite hardy and can withstand being trampled better than regular turf. Clover fixes nitrogen, meaning it converts atmospheric nitrogen into a form usable by plants. When mowed, it releases this nutrient back into the soil. Another advantage of using clover is that it requires less water than typical turf grass. This makes it a sustainable

choice for maintaining a healthy lawn. You can sprinkle them in or go all clover; the sky is the limit.

The best option is to greatly reduce or even remove your lawn and replace it with native plants suited to your region. This can be done gradually over time to make the transition easier. Another choice is to limit it to just pathways. Removing the lawn and replacing it with regionally native plants checks all the boxes: you support local wildlife, save a lot on your water bill, and reduce yardwork time.

Designing for Beauty and Function

Evergreens serve both as attractive plants with year-round color and as beneficial for wildlife when selecting the right species. Planting native evergreen species like American Holly offers winter interest for you, provides shelter for birds, and supplies berries for their diet. American holly berries are toxic to humans, so be cautious about placement, especially if you have curious children or pets. Winterberry holly does not retain its leaves in winter because it is deciduous,

but it will produce berries for birds and add winter interest. Incorporating a variety of evergreen species can enhance the landscape's visual appeal and ecological benefits throughout the year.

Native plants are a great choice for busy professionals because, once established, they need minimal care. They require no fertilizer once they are established and are only watered during heatwaves. Some native plants grow tall and may need support. One way to manage this is by grouping the plants. Another helpful tip is to plant them against a structure such as a foundation. Alternatively, you can install a stake and loosely tie a string around the plants, attaching it to the stake. Be careful not to tie the string too tightly or make it too short, as this can look unnatural.

Design for Change, Not Permanence

Unlike hardscape, living landscapes are dynamic. Plants grow, spread, and die, providing nutrients for future plants. Weather changes occur. Wildlife comes and goes. An ecoscape is continually

evolving. Landscapes should be designed to be adaptable, allowing for these natural changes. Leave enough space for plants to reach full maturity while leaving some overlap to shade out weeds.

Select plant species that can adapt to changing environmental conditions. An example of this would be to use drought-tolerant plants on a sunny southern exposure. Accept that ecoscaping is a dynamic process; some strategies will succeed while others may not. Welcome change instead of fighting it. Each season brings new layers of life added to your landscape. Your native plant ecoscape is a living system that progresses over time, reflecting the continuous interactions within the ecosystem around you.

Bring Ecology Into Design

When you design with an ecosystem mindset, you're not just arranging plants any old way; you're forming relationships and mini ecosystems. Some of these plants and organisms have co-evolved for millennia. They have adapted to work together much like your heart and lungs

work together for you. Each has a different role, but each is required to maintain life.

You're creating a place where soil, water, plants, animals, and people work symbiotically with one another. This is the definition of ecology. It's quite a balancing act. This way of designing turns landscapes from resource sinks into life-giving systems. The result is a landscape that looks great, feels great, and *does great*.

CHAPTER 5
Plant Selection and Acquisition

We all live in different areas of the world, so the plant palette will differ for each of us. The most effective way to approach this would be to break plant palettes down by region. Exact species may be different where you live, but the concept applies anywhere. I live in the United States and am most familiar with these regions, so I will be focusing on these.

In the northeast, a woodland canopy layer typically includes species such as oaks, maples,

and hickories. The understory layer is generally dogwoods, serviceberries, and redbuds. For shrubs, you typically see viburnums and spicebush; In a more mountainous area of the northeast, you may see rhododendrons and mountain laurels mixed in. Species such as trilliums, ferns, goldenrods, and phlox are commonly seen in the herbaceous layer.

Midwestern prairies have grass species such as little bluestem and switchgrass. The herbaceous layer for this region would be made up of species such as purple coneflower, blazing star, and black-eyed susans. Ninebark and prairie rose are a couple of species found in the shrub layer.

In the southwest, water is at a premium. Xeriscaping is exceptionally important in such areas. Common tree species found in southwestern xeriscapes include mesquite and desert willow. A typical shrub layer includes species like sage and rabbitbrush. Some perennial options include things like penstemon and yucca, as well as groundcovers like creeping germander and native succulents.

In the southeast, you find meadows which include grasses like Indiangrass and broomsedge. The herbaceous layer has things like coreopsis, milkweed, and golden aster. Commonly found shrubs include species like button bush and wax myrtle.

For international readers, the same approach applies—research the native ecosystems in your area and follow the same principles. When planting native species, remember that it usually takes about one to three years for the plants to become fully established, start spreading, and produce significant blooms. This period can vary depending on the type of plants and local conditions, so patience is key to seeing the best results.

Plant Acquisition

There are several ways to obtain plant material. One method is to buy seeds or plants online or in store from a reputable company; for milkweed (Asclepias sp.), there's a U.S.-based organization that will send you free milkweed seeds if you

mail them a self-addressed envelope. Some forestry groups and electric companies also offer free tree saplings and plugs. Seed exchanges, whether online, in person, or at public libraries, also provide seeds. For residents of New Jersey, you can opt to install a “wildflower sod," which is essentially a prairie that’s been grown, cut, and sold like sod. This typically requires working with a landscaper or gardener, as it’s sold by a wholesale business. Additionally, birds can help supply plants by visiting your yard and dispersing seeds through their droppings.

Regardless of which route you choose, the source must be reputable and follow all the laws and regulations regarding the plant material. These laws are important because they help prevent the spread of diseases or non-native wildlife, and ensure that the material collected is sustainable for wild populations. Some states and municipalities offer financial reimbursement for using native plants. What’s the catch? It’s simple: regionally native plants require less water and are better acclimated to your zone. By choosing plants that need less water, overall

water consumption decreases. When less water is used, it lessens the strain on the supply, and THAT is the catch!

Dividing and Transplanting

Dividing plants is an effective and cost-efficient way to increase your plant collection without buying new ones. The best time to divide and transplant plants is in autumn, winter, or early spring when the weather is cooler. To begin, assess the plant's size and decide accordingly. For smaller flowers, you may need to dig about 3 inches around the plant. For larger plants like shrubs, determine the appropriate digging depth, typically 1 to 2 feet, depending on the shrub's size.

For all plants that you dig up, you want to dig deep enough to salvage as much of the root mass as possible. You don't need to remove all of the root mass, but the more you take, the better. For flowers, you may only need to dig down a few inches, while with shrubs, it might be around 1 to 2 feet. When transplanting the plants, dig a hole twice as wide and twice as deep as the root

mass. Place the loose soil back into the hole around the plant so that the top of the root mass is flush with the ground surface. Water the inside of the hole to help remove air pockets and give the roots a thorough soaking.

Next, add organic slow-release fertilizer if you choose, but with healthy soils, this step can be skipped, and then backfill the rest of the hole with the soil. Gently press down the soil around the plant. Apply a thick layer of shredded mulch or leaf debris. The mulch will serve as a weed suppressant and moisture barrier until the plant recovers and fills in the space, at which point it should begin shading and crowding out any weeds.

Growing Plants

Growing plants from seeds can save money and, depending on how you plant them, could also save you time. Flowers can cost anywhere from $3 to $30 per plant, depending on size and species, while a single pack of seeds may cost between $3 and $5, based on quantity and species. An effective method is to grow the seeds

under plant lights and on heat mats. Be sure to follow all product safety instructions. Before starting seeds, it's important to understand some basic information. The first thing to find out is your United States Department of Agriculture (USDA) plant hardiness zone for your specific zip code.

Once you determine your USDA plant hardiness zone, find out the average last frost date for that zone. Plants could die if planted too early due to potential frost or freezing temperatures. The average last frost date indicates the typical date when the last frost of the year happens. Remember, this is just an average, so frost could occur a little later. You can find this date by searching online for the average last frost date in your specific plant hardiness zone.

When growing plants from seeds, make sure to read the seed package to determine the appropriate time to start them. Usually, you should take your average last frost date and count backwards to decide when to sow for a specific plant. For example, if your average last

frost date is May 10th and the seeds you want to plant take 30 days to germinate, starting them on April 20th means they will just be germinating by May 10th. However, the goal is to have the plants large enough to transplant outside by that date, so you should start the seeds around the last week of March to the first week of April. This allows 30 days for germination plus a couple of weeks for the seedlings to grow and establish roots. Remember, because you're dealing with nature, nothing is guaranteed.

Some seeds need a process called cold stratification, which means they must experience a period of cold temperatures to help break the seed coat. Most plant species requiring cold stratification need 60 to 90 days. Some seeds require scarification, which is exactly what it sounds like. To scarify seeds, gently rub each seed against sandpaper just enough to break part of the seed coat. This mimics what happens when an animal digests a seed and deposits it through its droppings. Plant species like wild lupines (Lupinus perennis) need scarification. If you're short on space, you can start multiple

seeds in each tray cell and later separate them as they begin to grow.

No matter how many seeds you start per tray cell, they need plenty of light. There are many options for plant lamps. Some higher-end plant lamps work well, but they come at a higher price. These premium lamps might be a good choice for professional growers, making the higher cost worthwhile. For home gardeners, a decent grow lamp will do just fine. A good rule of thumb is to give seeds and seedlings about 16 hours of light each day. Keep the light about 2 to 3 inches above the soil or the top of the plant once it has germinated.

To speed up germination, it's commonly recommended to place the seed tray on a plant heat mat. Seeds germinate best in warm (not hot) soil. Use organic potting soil or a variety that's free of pesticides. Lightly cover the seeds with vermiculite, which helps retain moisture and prevents fungus. There are a couple of ways to water the seeds; one is to mist them with a spray bottle, or another is to bottom water by placing the seed trays into a larger tray without

holes. Fill the bottom tray with about ¼ inch of water and refill as needed. In my experience, bottom watering tends to save time.

Winter Sowing and Cold Stratification

Winter sowing is a common method for germinating seeds. This technique is used for seeds that need cold stratification. It involves planting seeds in containers outside to be exposed to weather conditions. Once the seeds undergo cold stratification, they will naturally begin to germinate as the soil warms up in mid to late spring. There are different ways to winter sow, each with its own benefits, risks, and time needs. In the United States, you should start this process on or after December 21st. on the other side of the world, begin on or after the first day of your winter season.

One method for winter sowing is to use clear plastic milk jugs or other transparent plastic containers. Cut the jug nearly in half, with the cut running parallel to the ground and the top of the jug facing upward. Make sure not to cut all the way through, as you'll need a hinge,

which is typically the milk jug handle. Poke several holes in the bottom of the jug for drainage. To make drainage holes quickly, you can use a drill with a small bit or a heated tool like a soldering iron. Fill the bottom half of the jug with potting soil up to about half an inch below the cut. Sprinkle your chosen seeds and gently press each one into the soil. Lightly spray water over the seeds to moisten the soil. Once finished, flip the top of the milk jug over to cover the seeds. Use a strong tape such as duct tape to seal the cut around the jug completely. Remove and discard the cap from the jug. Label the jug with the name of the plant you selected. Repeat as needed.

Once you finish selecting your plants, place the milk jugs in a sunny spot and leave them there until most have germinated. After the seedlings emerge, move them to a partly shaded area to prevent overheating. When it's time to open the milk jugs, carefully remove each plant to transplant into the ground. Be sure to stabilize the jugs against wind and animals by grouping

them near a structure or surrounding them with something heavy to keep them in place.

The winter sowing method I prefer involves using a clear storage container. To start, choose a medium-to-large clear storage bin with a transparent lid. Poke several holes in the lid for airflow, rain, and snow. Then, make multiple drainage holes at the bottom of the bin. Using 3-inch or 4-inch square planting pots, fill each with potting soil, leaving about half an inch from the top. Place a few seeds of your choice (same species in each pot) into each container, gently pressing them into the soil so that it barely covers the seeds. Arrange the pots inside the storage bin, repeating until the bin is full. Water each pot lightly to moisten the soil. Put the lid on and place the container in a sunny spot. I recommend weighing it down with something heavy enough to prevent it from blowing around. I like this method because it's quick to assemble, needs no maintenance during winter, and by planting time, the plants are already in individual pots, making separation easier. Additionally, it doesn’t require heat mats or lights, making it a

cheaper option aside from the initial cost of the container. The storage bin can be inexpensive or even free if you know where to look. Social media groups often exchange items, which can be a good source.

Direct Sow

A third approach is to simply sow or spread seed on the soil surface in your planting bed and let Mother Nature take her course, as she would naturally. This method risks wildlife eating some seeds or young plants in spring, but this can be reduced by using row covers or other finely meshed materials. Choosing a method of winter sowing or gardening overall is similar to selecting a vehicle; there are different types, and most will get you to your destination—you just need to pick the one that works best for you.

Tree Selection and Care

When selecting trees, people often opt for larger ones to achieve immediate satisfaction. While this approach is acceptable, it can lead to slower growth as the tree recovers from root damage.

Typically, trees and shrubs that have been balled and burlapped or grown in plastic containers have had their roots cut before being balled and burlapped or have girdled from being in a plastic container. Planting young trees not only saves money, but they generally catch up to larger trees quickly because they haven't sustained root damage and can focus on growth instead of recovery.

At the time of writing this book, the widely accepted best forestry practices include separating tree and shrub roots at planting. Separate roots to prevent girdling by gently teasing apart the roots at the bottom of the root ball. Girdling occurs when a tree or shrub's roots grow in a circle around itself. Girdled roots can cause tree decline or even eventual death. Burlap material and all materials holding it together must be removed and disposed of. Leaving these materials in place will damage the plant.

Trees should be planted so that the root flare is level with the surrounding soil. The root flare is where the tree’s roots meet the trunk.

Creating a volcano of soil or mulch around the tree trunk will suffocate the roots and cause the tree to die. Despite popular belief, tree roots do not break pipes and foundations. However, roots can exploit existing cracks in pipes and foundations, worsening the problems.

Pruning

There are a few basic rules for pruning trees. Always use sharp pruners, as dull ones can damage the plant by ripping rather than making clean cuts. Never prune more than one-third of a tree in a single year. Usually, pruning is done during the dormant season. Make cuts near the collar, not out along the branch, though there are exceptions, such as shaping the tree or removing disease. Before making any cuts, always either use a new saw blade or spray rubbing alcohol onto the blade to help reduce the spread of diseases from tree to tree.

When it comes to tree damage, several factors can influence whether a tree survives, but nothing is guaranteed. These include tree species, age, health before damage, size and

type of damage, and how you respond to help the tree. For example, a locust (Robinia sp.) can often better tolerate some damage than an oak. A young tree might not have enough energy stored to recover from significant damage, while an older tree is generally on a natural decline after reaching its peak. Mid-aged trees tend to handle minor damage best because they are established but not yet in decline. Typically, trees recover more effectively from small, clean cuts than from larger or rougher ones. If a limb breaks off, the best approach is to use a saw to cut the remaining portion of the limb about an inch or two from the trunk, close to the collar. A clean cut made toward the trunk should allow a healthy tree to begin healing over the wound. Leading international forestry experts recommend not covering the wound with anything. Additionally, if your tree has a cavity, avoid filling it with any material.

A common tree wound is the “pancaking” of roots. When roots develop a large, flat, pancake-like shape, this is wound wood; it shows that your tree roots have been damaged. It’s

basically the tree's version of a scab. Common causes include heavy foot traffic, being driven over, or, more often, roots being mowed down when cutting the lawn.

Lawn or turf provides an area for children to play, but it is one of the worst things to have directly around a tree. Grass competes with trees for water and nutrients and requires ongoing maintenance. Caring for the grass around a tree involves mowing and weed whacking. Mowing the lawn near a tree risks damaging the roots with the mower. Using a string trimmer close to a tree risks damaging the trunk if struck by the string. I have personally seen damage from both methods many times, unfortunately.

Plant Pests and Diseases

Some common plant diseases and problems include fungal issues like rot, yellowing leaves, and sooty mold. Fungal diseases usually happen when plants lack proper airflow and stay consistently damp. Often, the fungi's fruiting bodies inside the tree are much larger than what you see outside.

White Rot, 2025

To help prevent fungal infections, make sure your plants have enough space and prune them when necessary. Also, give your plants the right amount of water. If you notice your plants turning yellow, it could be a sign that they are overwatered. In that case, cut back on watering. Sooty mold is caused by insects like aphids. These pests feed on your plants and excrete honeydew, which a fungus then feeds on, resulting in sooty mold. To address this, remove aphids by applying an organic spray such as neem oil or, preferably, let natural predators like ladybugs find and eliminate them. If it's an aggressive case of sooty mold, you may choose to go straight for the neem oil. Use your best

judgment or consult a forestry-certified professional.

When Non-natives Can Work

Not every non-native plant is harmful to the landscape. Many are neither damaging nor as beneficial as native plants. These non-natives play a more neutral role in their ecological importance. For example, some common vegetable and herb garden plants support pollinators or fruit trees that supply food for both humans and birds. The main distinction is to avoid invasive species, which are plants that escape from a domestic setting and spread aggressively, displacing native species. The goal is to keep non-native plants below about one-third of the total plant material in your area.

If using a non-native species, choose one that doesn't spread aggressively in your area. A few examples of plants that should not be planted in the northeastern United States because of their aggressive spreading include burning bush (Euonymus alatus), bamboo (Bambusa), and garlic mustard (Alliaria petiolata);

on the other hand, garlic mustard is an important native plant in parts of the United Kingdom. This illustrates how plants are not inherently good or bad; rather, they are suitable or unsuitable depending on the location.

Another plant to avoid using in the United States is Tropical milkweed (Asclepias curassavica) because monarchs infected with the protozoan parasite Ophryocystis elektroscirrha can deposit it on tropical milkweed leaves and infect other monarchs. The issue arises because tropical milkweed does not die back in winter in warmer U.S. climates, which would otherwise lead to the parasite's death due to food depletion. With a year-round food source, the protozoan continues to live and infect other monarchs.

If you decide to add some non-native plants to your landscape, focus on those that offer ecological benefits like nectar, pollen, or fruit, such as certain herbs. Some cultivars are bred more for appearance than for attracting wildlife. Often, these plants have double flowers and usually do not produce pollen. In short, non-natives can be used in moderation, but native

species should comprise the majority of your plantings.

Think in Plant Communities, Not Individuals

Instead of asking, “What plant do I like?” consider, “What plants grow best together in my region that also look nice and benefit nature?” In nature, plants grow in communities where they share resources, complement each other, and build resilience. For cosmetic purposes in a home garden, you would find a plant community that is appealing to the eye and suitable for the environment you want to create.

Examples of plant community functions include nitrogen-fixing species such as redbud trees, lupines, clovers, and native indigo, which enrich the soil. Active resource collectors, such as comfrey or yarrow, extract nutrients from deep soil layers. Groundcovers like wild strawberry or creeping thyme help reduce soil erosion. Fundamental plants, such as oaks and tall grasses, provide shade, windbreaks, and habitat. By clustering plants that support each other, you create self-sustaining mini-ecosystems.

Additionally, using a diverse mix of native species can enhance resilience and encourage biodiversity within the system.

Think in Layers

For a big-picture ecoscaping approach, it's essential to include layers of plants in your space. These levels consist of trees, shrubs, flowers, and grasses. Different wildlife species need varying heights and types of plants. For example, you might plant a native mountain laurel or viburnum under or just beyond the drip line of an oak tree. The drip line marks where the tree canopy ends and where the more vital roots of the tree taper. You could also plant woodland phlox around the base of the oak tree and the mountain laurel beneath their respective canopies.

The different layers offer habitat for various animal species. The phlox acts as a living mulch for the shrub and tree, helping to retain moisture, keep the soil cooler, and nourish the soil through decomposing leaf material. The leaf litter from all three is broken down by

decomposers like worms and centipedes. The oak and mountain laurel provide the partial shade that woodland phlox needs. Worms serve as food for birds like the American robin. The oak can potentially host hundreds of insect species, and pollinators will visit the mountain laurel flowers. When combined, these create a micro-ecosystem and beautify your yard.

Match Plants to Place

It's important to follow the right plant, right place rule. This concept recommends planting species based on their light, moisture, and soil pH needs. By following this guidance, you will select plants best suited for your site conditions. You'll notice some plants appear on multiple lists because their preferred soil moisture and light requirements overlap with specific site conditions.

Sunny, dry areas are ideal for species like prairie grasses, coneflowers, and black-eyed Susans. In contrast, moist, sunny spots often support blueberries, sedges, cardinal flower, and serviceberries. When it comes to sedges, they are

sometimes mistaken for grasses; a helpful way to tell them apart is “sedges have edges.” Shady woodlands pair well with plants like ferns and foamflower. Areas of partial shade, like woodland edges, are suitable for plants like serviceberry. Warm parts of the yard are well-suited to Mediterranean herbs such as lavender, sage, and rosemary. When plants are matched to the right site conditions, they tend to grow better with less care, creating a more sustainable ecoscape. Choosing the right site and understanding plant needs are key to developing a productive and beautiful garden.

Seasonal Succession: Feeding Life Year-Round

Ecoscapes provide a continuous food source for wildlife. Like you, wildlife do not only need food in spring; they require it year-round—so design for bloom succession. Early in spring, plants such as willows, redbuds, Virginia bluebells, woodland phlox, and columbine offer nectar as a food source before most flowers bloom. Summer-blooming flowers like coneflowers, milkweed, and bee balm help keep pollinators fed until

autumn. In fall, plants such as goldenrods and asters bloom, which is vital for migrating monarchs and bees preparing for winter. During winter, wildlife such as birds rely on grasses, coneflowers, and other seedheads for food and shelter. It's crucial to include a variety of plants with staggered bloom and seed times, thereby creating a living, year-round pantry.

Designing With People in Mind

Plant choices reflect both your needs and aesthetics. Do you want edible plants mixed in? A few examples of edible native plants include blueberry bushes and serviceberry trees. Always consult an expert before consuming wild plant material. Want fragrance near your patio? Consider planting a native magnolia about 20 feet from your patio and other structures. This tree will offer shade and a sweet lemony smell from its blossoms. Placing it about 20 feet away from structures will help protect them from the tree's roots. Smaller options could include flowers like wild bergamot (Monarda fistulosa), aromatic aster (Symphyotrichum oblongifolium), anise

hyssop (Agastache foeniculum), and swamp milkweed (Asclepias incarnata), among others. For low plants along walkways, especially in sunny spots, creeping phlox (Phlox subulata) would be a good choice. A well-designed landscape should benefit both people and the natural environment. Ecoscaping doesn't mean sacrificing aesthetics or functionality; it's about thoughtfully selecting plants that are both beautiful and beneficial, creating a space that is sustainable, practical, and visually appealing.

The Power of Plant Choices

Every plant you add or remove changes the ecology of your space. A patch of milkweed (Asclepias) and goldenrod (Solidago Sp.) can host monarch butterflies. A patch of goldenrod can sustain pollinators into late autumn. A serviceberry tree offers food for dozens of bird species throughout late spring and summer. Similarly, removing natives and replacing them with non-natives has a negative impact. Your plant choices are your most powerful design tool.

Designing your ecoscape wisely helps transform your landscape into a thriving refuge.

CHAPTER 6
Soil Stewardship

Soil As a Living System

The world beneath our feet hosts one of the most complex ecosystems on Earth. A single spoonful of healthy soil can contain more microorganisms than there are people on the planet. These tiny organisms recycle nutrients and assist plants in absorbing them. Fungi, such as mycorrhizae, develop symbiotic relationships with roots, forming extensive networks that extend their reach. Fungi are often overlooked and underappreciated in soil health. Mycorrhizal fungi create large underground networks, bridging plant roots and enabling resource sharing. We can support fungi by reducing soil disturbance, which involves minimal to no tilling. Think of mycorrhizal fungi as microscopic versions of a tree's fibrous roots. They are further

encouraged by feeding them with woody mulches. Using fungicides should be a last resort. Planting perennials, which maintain long-lasting fungal networks, also benefits the soil ecosystem. A soil rich in fungi produces healthier, more resilient plants that are better able to withstand stress. Earthworms, insects, and microfauna aerate the soil through their tunnels and recycle organic matter. When soil life flourishes, plants grow stronger, water infiltrates more efficiently, and the entire system becomes more sustainable.

Soil as a Climate Ally

While the climate naturally changes over time, human activity has significantly sped up this process. It's like comparing a golf cart driving at 5 MPH to a bullet train at full speed, where the golf cart represents natural climate changes, and the bullet train symbolizes human impact on Earth's climate. The rapid pace of this acceleration limits the time Earth's species need to adapt, leading to mass extinctions. Recognizing this is crucial, and we should work to slow climate change to a

more natural tempo. Healthy soils support plant growth and trap carbon. When organic matter builds up in soil, carbon moves out of the atmosphere and back into the earth. Through composting, mulching, and minimizing soil disturbance, every gardener can help sequester carbon on a small but meaningful scale. Plants also help sequester carbon into the soil by capturing it through their leaves and transferring it down to their roots.

Avoiding Soil Damage

The first step in soil stewardship is to stop damaging it. Many practices harm the soil. Excessive tilling breaks apart fungal networks and destroys soil structure. Equipment and repeated foot traffic compact the soil, squeezing out air and water. Synthetic fertilizers feed plants directly but can starve soil life when organic matter isn't added. Pesticides and herbicides are non-selective, meaning they kill both beneficial organisms and pests.

Protecting soil mainly involves avoiding practices that harm the soil life. Installing a weed

barrier or landscape fabric is one of the main ways to damage soil. Tilling soil is another common method. Adding minerals and other amendments can also harm your soil, as it may cause spikes in some nutrients and decreases in others. Before applying soil amendments, the first step is to get a soil test. This is crucial because it shows exactly what nutrients and minerals your soil contains and in what amounts. You can get a soil test in several ways: purchase a home test kit, use a cooperative extension office or other professional analysis, or send a sample to a private lab. Each option varies in cost. Extension offices are staffed with professionals, and since their services are often subsidized by tax dollars, soil tests are usually affordable or even free. Once you have the results, you can plan which plants will thrive there, what soil amendments are needed, and how much to use to support your plants.

For areas with compact soil, you can incorporate plants such as buckwheat. There are different species of buckwheat, each native to a specific region worldwide. California buckwheat

is native to the western United States. Lupines also help loosen compact soil. Sundial lupine is native to the eastern United States, while the Silky lupine is native to the western United States and Canada. Although not native, clover helps break up compact soil. Clover is a good choice for mixing into turf that may be growing in compacted soil. For European readers, you might also consider adding chicory to your garden.

Feeding The Soil

In ecological landscaping, you don't feed the plants; you feed the soil, and the soil then feeds the plants. Finished compost adds organic matter and beneficial microbes. Use it as a mulch or lightly incorporate it into planting areas. Feed the soil with compost and supplement with organic slow-release fertilizer when needed. Using compost is very important when growing plants, and it's easy to make yourself.

Depending on your available space, you could create a simple setup with one or two 4ft by 4ft compost bins. Use four metal fence posts per bin and wrap turkey wire mesh around the

posts, securing it with zip ties. There are different methods to make compost depending on how detailed you want to get. You might place the bin in a sunny spot and actively turn the compost once a week, which is the fastest way to make compost, but it can be time-consuming.

As a busy professional and parent, I don't have much time. I set up my compost bin out of sight behind my shed. It is partly shaded by trees, and I rarely turn the compost, but I still find it breaks down fairly quickly. To help speed up the process a bit, I've installed a drip irrigation sprinkler to keep it moist. I add grass clippings, leaves, small twigs, coffee grounds, cardboard, eggshells, and paper. I never include citrus since citrus can harm worms. Some sources say that certain ratios of greens to browns are necessary, but I find that too much trouble. Besides, I can assure you that Mother Nature isn't measuring out perfect green-to-brown ratios. I toss in whatever I have at the moment, and it works just fine.

Some people worry about attracting rodents, so the best solution is simply not to add

anything that would attract them. Rodents search for food scraps, so just don't add food scraps to an open compost bin—problem solved! Another concern is odor, but I personally haven't had this issue because I don't use food scraps in my open bin. To compost food scraps without worrying about rodents or odors, you could use a closed compost tumbler. A compost tumbler might also be a good option if you don't have space for a larger open bin. In short, keep it simple and do what works best for you. In nature, things break down naturally, so there's no wrong way—just maybe faster ways.

Composting in place is another helpful tip. In some cases, it may make more sense to compost directly where the materials are. For example, are there vegetable food scraps or other compostable items that might produce odors? Did your latest batch of compost not break down in time, or have you just finished fall cleanup and need a spot to put the leaves? These could be good situations where composting in place could be useful. To do this, you have a couple of options: you could dig a

small hole and put some of these compostable materials inside, then cover it, or for items like leaves, coffee grounds, and other odorless materials, you can place them around plants and cover them with mulch.

Living Roots and Cover Crops

Living mulch is the best choice for mulch. Living mulch is any ground cover, preferably native, intentionally planted around the base of a tree or shrub. It does everything that typical shredded mulch does and more. Living mulch helps keep soil moist and loose because it slows rainwater, which would otherwise compact the soil. It continuously feeds the soil as dead leaves fall and decompose, and it also shades out weed plants. Additionally, living mulch provides habitat for various organisms. This approach is collectively called a soft landing.

Planting living mulch is a smart way to save time and money because it's something you only need to do once. Living roots keep the soil covered with plants all year round. Roots release sugars that nourish soil microbes. Cover

crops like clover, vetch, rye, or buckwheat improve the soil. These crops are usually used between growing seasons when vegetable gardening, but they can also be planted in an idle garden bed for native plants. Cover crops help keep the soil loose, and when worked into the ground, they add nitrogen and other nutrients.

Mulch

An alternative to living mulch is to add about 3 inches of natural, non-dyed shredded hardwood or cedar mulch. Wood mulch acts as a good placeholder while you wait to plant more. Wood chips, leaves, or straw protect the soil, conserve moisture, and slowly break down into humus. Mulch is vital for shrubs and trees. Natural mulch is great because it reduces weeds, increases water retention—meaning you'll need less watering—and provides food for soil microbes, which help nourish your plants as the mulch decomposes.

A great thing about mulch is that sometimes you can get it for free! When tree

companies remove a tree and take the material to the dump, they are often charged a fee for dumping that material. What if they didn't have to pay that fee because they don't need to go to the dump or need to go as often? If you make some phone calls to local tree companies, they are usually willing to drop off a load of free mulch at your property. By doing so, they avoid paying a dump fee, and you get free mulch. It's a win-win situation.

When calculating how much mulch you need, remember that 1 yard is roughly equal to 6 full wheelbarrows of material. This knowledge is useful when ordering mulch, as it is often sold or delivered by the yard in the United States. Any leftover mulch can be added to your compost bin. Free mulch and reducing your water bill both save you money. Got fifteen to twenty minutes? Spread some mulch! Breaking larger tasks into smaller time segments helps keep your project moving instead of waiting for a big block of time, which can cause delays.

Sheet Mulching

One of the most time-efficient methods for restoring nutrient-deficient soil is sheet mulching, also known as “lasagna gardening.”

Lasagna gardening works by smothering existing plant material with a layer of cardboard, newspaper, or paper bags, which can also work. Be sure to remove all tape and labels from boxes if that’s what you use. Next, add varying layers of compost, mulch, more cardboard, and organic material. Water it down once complete. Your part is now done; nature will take over from this point. The worms, microbes, and other decomposers will break down the materials into fertile soil. This technique not only builds up rich soil but also avoids the task of digging and disturbing the soil through tilling. Contrary to popular belief, it's best practice to minimize soil disturbance. Disturbing the soil can harm the soil microbiology. The alternative would be to remove weeds or degraded soil before starting your garden space.

Hugelkultur and Raised Beds

For areas with degraded or compacted soils, hugelkultur or raised beds can aid in restoring soil fertility. Hugelkultur involves creating mounded beds using logs and other organic materials. This method is similar to lasagna gardening. Hugelkultur mimics natural forest processes, with logs acting like fallen trees on the forest floor. In the forest, these fallen trees decompose and supply nutrients to the soil; in a hugelkultur bed, the logs gradually decay. Buried wood breaks down slowly, retaining water and releasing nutrients over time. Raised beds offer the benefit of planting in areas contaminated by soil issues, as they lift your garden above the contaminated ground. Both techniques demonstrate that building soil fertility is a gradual process.

The Stewardship Mindset

As an alternative of viewing nature as something to be tamed and conquered, we see it as a partner, because without it, all life on this planet would disappear. When we nurture and protect

the complex living systems beneath the ground, everything above ground flourishes with less effort and becomes more resilient. A thriving ecoscape truly begins from the ground up, emphasizing the importance of healthy soil in building a sustainable future.

CHAPTER 7
Water-Wise Landscaping

Water is a powerful force that impacts every landscape. Excessive water can cause plants to drown or be washed away, leading to soil erosion and sometimes landslides. Conversely, a lack of water causes landscapes to shrink and deteriorate. In a time of frequent droughts, floods, and rapidly shifting weather patterns, adopting xeriscaping practices offers one of the most effective strategies for building ecological resilience in our changing world. These techniques minimize water use and help create sustainable, resilient environments amid climate uncertainty.

Xeriscaping doesn't mean sterile gravel yards or sacrificing beauty. It means working smarter and more efficiently with the natural water cycle—slowing it, capturing it, and helping it seep back into the soil, all while planting native species that thrive in local conditions. It's about creating a sustainable landscape that saves water, reduces maintenance, and still looks vibrant and inviting.

Mimicking the Natural Water Cycle

In healthy ecosystems, rain slows down as it falls on leaves, absorbs into the soil, and replenishes groundwater. In typical landscapes, much of the rainwater runs off roofs, driveways, and other hard surfaces—rushing into storm drains and carrying pollutants along the way. By slowing the rain, you reduce flooding and give nature time to filter the water properly before it reaches the aquifer. This method promotes healthier watersheds, encourages plant growth, and helps maintain the ecosystem's overall balance.

Rain Gardens

Rain gardens are becoming more important because of climate change. In some areas, climate change leads to heavy rainstorms that produce more rainwater than the land can absorb. Rain gardens are designed to soak up some of this excess rainwater and redirect water away from buildings. They are shallow basins planted with deep-rooted native species that can tolerate both wet and dry conditions. Typically, they are located near rain gutters, downspouts, or along roadsides. A rain garden is a simple depression in the ground lined with a pond liner, filled with river rocks, soil, and native water-loving plants. Sometimes, they are built in tiers to help direct water further. Besides their attractive appearance, the plants in rain gardens help slow down and filter the rainwater before it soaks into the soil and recharges the water table. Make sure to place the water at least 6 feet away from all building foundations before allowing it to absorb into the ground.

Rain gardens capture runoff from roofs, driveways, or lawns, allowing the water to absorb

into the soil instead of flowing directly into sewer systems. Gently slope the sides of the basin so they are roughly 6 to 12 inches deep. Plant species that thrive in moist conditions, like swamp milkweed, blue flag iris, and sedges, are ideal choices. It’s crucial to include an overflow outlet for heavy storms. Rain gardens enhance the landscape's beauty while helping to reduce stormwater runoff, filter pollutants, and provide habitat for pollinators. Additionally, they contribute to groundwater recharge and promote a healthier environment.

Rainwater Harvesting

Rain barrels are an excellent way to conserve water and reduce your water bills. Some towns may offer discounted or even free rain barrels. They are placed next to a rain gutter and filled using a rain gutter diverter. When the barrel is full, excess water flows back into the gutter and away. The barrel rests on a mount because the system depends on gravity. These barrels have spigots, and you might need to buy a hose separately, depending on the model. The

collected rainwater can then be used to water nearby plants, helping you save money on water costs.

Bioswales and Contour Planting

On larger sites, bioswales can be constructed. These planted channels direct water gently across the land, filtering it and slowing its flow. Even in smaller spaces, simply contouring the soil with vegetated slopes and berms can capture rainfall. A shallow depression on the downhill side of a slope, vegetated with grasses and perennial flowers, turns runoff into a resource.

Water Feature

Add a water feature to your property. Water features support wildlife for survival and boost human mental health. Enjoying a cup of coffee while listening to the gentle sounds of flowing water can be a calming break. The water feature can be as complex as an in-ground pond or as simple as a patio pond in a large plastic whiskey barrel planter. Whatever you choose, make sure it gently moves water for aeration and to deter

mosquitoes. Include pond plants, such as fully aquatic species and those with roots submerged. Duckweed (Lemnoideae sp.) is excellent for providing shade and oxygenating the water.

Placing fish in a pond offers several benefits. The fish should be small and able to tolerate the varying temperatures in your area, unless you plan to bring them inside during extreme weather. Keep only a small number of fish in the pond. They will help control mosquitoes and provide nutrients for pond plants. There are different opinions about using fish. While fish can help, they might also eat native beneficial insects you want to attract. If the water doesn't circulate enough and you don't add fish, mosquitoes could become a problem. I prefer a balance by adding just a couple of fish and planting lots of vegetation. This minimizes the number of fish and gives beneficial insects plenty of hiding spots. To attract dragonflies, place something tall near the pond for them to perch on; they are great mosquito predators. The pond should be

situated in a sunny or partly sunny spot. Make sure the fish cannot escape into the wild.

Dragonfly Larvae, 2025

Permeable Surfaces

Much of civilized society is covered in hard surfaces primarily made of asphalt and concrete: roads, driveways, walkways, and bridges, to name a few. These hard surfaces quickly shed water, increasing the dangers of flooding. Replacing them where possible with permeable options allows rainwater to soak into the ground instead of washing over impermeable surfaces and into areas like homes. Examples of permeable surfaces include specialized permeable concrete, gravel or crushed stone, porous pavers or brick

pathways with wide joints, and wood chips or mulch. Every square foot of permeability helps restore the land's natural water flow and reduces flood damage. Improving permeable surfaces enhances groundwater recharge, prevents erosion, and supports healthier ecosystems by allowing rain to directly nourish the soil.

Planting for Drought Resilience

Water-conscious landscaping, also known as xeriscaping, involves infrastructure and the selection of certain plants. One tactic for creating a drought-resilient ecoscape is planting drought-tolerant native species. Grouping plants by their water needs allows for targeted irrigation. Installing a natural shredded wood mulch at a depth of approximately 3 inches, or even better, a living mulch, helps conserve soil moisture. To promote a drought-resistant, strong root system, you should water your plants deeply and less often. Additionally, using native plants and efficient watering techniques can further enhance drought resilience.

Water Management

When it comes to water, plants tend to be lazy. If you water frequently, the roots of plants (bushes, grasses, trees, etc.) will stay near the surface instead of growing deeper into the ground. To have healthy, drought-resistant plants, you need to encourage them to work a little harder. Water deeply and less often. You should water at the roots and avoid watering the leaves. Try to water in the early morning so that the plants have the whole day to evaporate water off the leaves. When water remains on leaves for too long, especially overnight, it can lead to diseases and fungus.

Planting for Flood Resilience

In wetter regions or flood-prone areas, vegetated spaces can help absorb and redirect excess water. During a flood event, having deep-rooted bushes might be enough to slow down the flow of water. Shrubs like willows, red osier dogwood, and buttonbush thrive in wet, well-draining soils. Deep-rooted native grasses and sedges stabilize banks and swales by holding onto the soil.

Vegetated banks act as nature's equivalent of retaining walls. Meadows function like sponges, absorbing and gradually releasing stormwater, similar to marshes and swamps. Instead of fighting floods, it's better to design landscapes that work with water's natural movement. Trees and shrubs can bend and sway with forces, reducing the risk of breaking—whether during strong winds or heavy water flow, helping the landscape adapt and remain resilient.

CHAPTER 8
Maintenance the Ecological Way

Seasonal Rhythms, Not Weekly Chores

With a typical lawn, maintenance is very routine: mow, weed whack, and repeat every week. In the autumn, you add leaf clean-up to this routine. An ecoscape has cycles that ebb and flow with the seasons. In late winter and early spring, most perennials get cut back, mulch is refreshed, and crowded plants are divided. During summer, you observe plant growth, water during droughts,

and manage persistent spreaders. In early autumn, you plant trees and perennials, sow cover crops, and leave leaves.

In winter, you reflect on what worked and what didn't, and plan for the upcoming season. If you are engaged in winter sowing, you are preparing the seeds. Wildlife utilize the seed heads, stems, and brush that you leave out for shelter. This pattern involves taking on a variety of tasks, but it results in a decreased overall workload once your systems are in place.

Weeds

What are weeds? Technically, a weed is any plant growing where it’s not wanted. A rose bush growing where it’s not wanted is, by strictest definitions, a weed. Society has scapegoated plants like dandelions as weeds, which is why species such as these come to mind first when people hear the word. Truth be told, dandelions and even rose bushes can both be considered weeds equally.

My least favorite task is weeding, and I’m sure I’m not alone. Planting densely is a highly

effective way to reduce the number of weeds. Weed seeds need available soil and sunlight. By planting densely, you limit those resources. Planting densely means spacing plants so that at maturity, the ends of the leaves just barely overlap with neighboring plants. This should shade out many of the weeds without planting so close that the plants become vulnerable to illness and disease. Adding a thick layer of mulch around the plants will also help reduce weeds. One thing to avoid is using weed cloth. While it stops weeds, weed cloth can also harm your soil by killing beneficial soil microbes. If used, it may take a season or two for the soil to recover.

If weeds are still a problem and you want a more natural solution than a typical herbicide, you can make your own weed killer. I recommend using this only as a last resort and applying it sparingly. Take a gallon of white vinegar and dissolve 1 cup of table salt into it. Then, add 1 tablespoon of liquid dish soap. Gently stir the mixture. Transfer the solution to a spray bottle and label it. Apply it to the targeted weeds on a hot, sunny day when no rain is expected for

at least 24 hours. It's best to spray on a calm day to avoid getting it on non-target plants. Remember, this homemade weed killer is non-selective, so it will kill any plants it contacts. Also, salt can change the soil chemistry, so use it carefully and sparingly.

Pruning For Habitat

Pruning in ecoscapes isn't about shaping shrubs perfectly like in topiary; it's about encouraging plant health and habitat value. For example, when pruning for plant health, you would cut away branches growing toward the trunk or rubbing against each other. Diseased branches can also be removed. Sometimes, arborists trim certain branches to open the canopy for better airflow or to promote growth. In ecoscaping, instead of removing all dead branches, we leave some in place, assuming they are deemed safe. They provide shelter for insects, which serve as food for birds. Stagger pruning of shrubs and hedgerows so some always remain fruiting and flowering for wildlife. In the fall, cut some perennial stalks to about 12-18 inches and leave

them standing. Bees and other insects will nest over winter. The remaining stalks and seedheads stay up as bird food during the colder months. Pruning becomes a way to support biodiversity, not just maintain appearance.

A technique called the Chelsea chop can be helpful when trying to encourage taller native plants, like wild bergamot, to grow shorter and bushier. This method may be especially useful when planting in more open areas where the plants are exposed to stronger winds and are more likely to flop over. To perform this, in late spring, you would prune the plants down to about one-third to one-half of their height.

Managing Invasives Thoughtfully

Every ecoregion encounters invasive plant species that spread rapidly and outcompete native plants. This happens because they lack the natural predators and competitors that help regulate their populations. Managing these invasives is important, but it doesn't have to rely solely on the continuous use of herbicides. One effective management strategy is the early

removal of young invasives before they become established. You can also smother patches using sheet mulching. Another approach involves target cutting to deplete their root reserves. Allowing animals to graze on invasives can also be beneficial. After removing invasives, it's crucial to replace them quickly with strong native species that occupy the same ecological niche. The aim isn't perfection but progress—creating opportunities for native communities to recover and thrive.

Leaving the Leaves

Instead of bagging leaves and hauling them away, which is a time-consuming process anyway, let them do their ecological work. After all, that's the start to free compost as well as a potential habitat for organisms! A layer of autumn leaves protects the soil over winter, provides habitat for insects, amphibians, and small mammals, and breaks down into rich organic matter in spring. Leaving the leaves could mean anything from simply not touching the leaves at all to placing them under shrubs

and trees as mulch or shredding them and placing them in a mulch pile. You decide which works best for your space. The key is to keep the nutrients on site and use them to maintain habitat.

If you choose to mulch the leaves, I have found that using an electric leaf blower with a mulching feature significantly speeds up the process. The machine vacuums up the leaves, shreds them, and then blows them into an attached bag. By unzipping the bag, you can easily pour out the shredded leaves. This method and equipment save a lot of time. I blend my method by leaving some leaves whole under bushes and trees, while shredding others to add to my compost pile. No matter which method you choose, it's crucial to leave some areas with leaf cover for overwintering wildlife and to maintain soil health.

Many organisms take advantage of leaves on the ground. These include, but are not limited to, fireflies, ladybird beetles (ladybugs), and some moth and butterfly species. These organisms use leaves for shelter to overwinter their larvae. Adult

bumblebees and similar insects overwinter as adults in the soil beneath leaves. The leaves also help retain soil moisture. The prey that fireflies feed on—earthworms and snails—use leaf litter for shelter. Decomposers like beetles, millipedes, pill bugs, snails, and slugs need the leaves for nutrients.

Brush Piles and Deadwood

What appears to be "yard waste" actually provides shelter for wildlife and many other organisms. Piles of brush can shelter birds, toads, snakes, and beneficial insects. Dead trees and branches left standing become sources of food for woodpeckers and other insectivores. Dead trees also serve as potential nest sites for owls. Instead of taking the time to trim, bundle, and place the debris at the curb for trash pickup, you can simply trim the necessary plants and stack them into a brush pile—done! You've now supported wildlife and saved a lot of time on your chores.

Steward the Land: Observe and Adjust

No native landscape or any landscape, for that matter, is stationary. Plants spread either on their own or with help from other organisms. Wildlife comes and goes, and environmental conditions change over time. Ecoscaping is a fluid process that should evolve as new ideas are tested and new information is gained. If you set a rigid plan, you're likely to face failure. Make regular observations of your space and keep a mental note; writing it down can also help. Pay attention to what's thriving, what needs some help, and which wildlife species are using the area. If a plant dies, replace it with a species better suited for that spot. If an area becomes overgrown, selectively thin it out and introduce some competition to control the aggressor. This can be done by adding a few different species to promote diversity. Continuously adapt your landscape by observing and responding to changes, ensuring it remains healthy and vibrant.

Redefining Success

In standard yards, success means uniformity and perfection: a chemical-laden, weed-free lawn, evenly spaced, perfectly pruned, non-native shrubs and trees showcased in their root-smothering mulch volcanoes, elegantly designed and installed throughout the property. It can looks pleasing to the eye for some! But at what cost? This pursuit of “perfection” is physically harming us and the environment around us, so one must ask, is this truly perfection then? The very definition of perfection means without flaw; isn’t harming life around us just society creating flaws? In a world of perfection, entire populations of songbirds wouldn’t starve because their main food source, caterpillars, are being wiped out. For life on this planet to continue as we know it, global society must redefine what a “perfect” yard looks like.

In an ecoscape, success is gauged by the presence of life and biodiversity: butterflies fluttering on the goldenrod, birds nesting in native hedgerows, fireflies illuminating woodland edges. Your garden doesn’t need to resemble

anyone else's to be beautiful; it only needs to serve its essential functions—nurturing soil, water, wildlife, and humans. When this becomes your core goal, beauty naturally falls into place. This, then, is the true measure of ecological success. By focusing on function and balance, you create a thriving ecosystem that sustains and enriches all its inhabitants.

From Control to Stewardship

The most significant change in ecoscaping isn't about the specific techniques but about shifting your mindset. Yardwork transforms from simply maintaining a lawn to practicing stewardship of the land. Instead of trying to control every single detail, you foster natural processes to flourish. Over time, the land responds by becoming more resilient, abundant, and beautiful qualities that no traditional lawn could ever match or replicate.

CHAPTER 9
Designing For Wildlife

There is nothing quite like the magic of fireflies to say 'it's summertime!' Kids and kids at heart enjoy these creatures. Unfortunately, firefly populations are declining, but here are a few tips to help keep these insects around for future generations. First, avoid using pesticides. Second, leave the leaves! Leaves provide the habitat needed by firefly larvae. We all want a beautiful yard, and that doesn't mean you need to leave leaves all over. It simply means that you might leave some leaves in a flower bed, under a few bushes, or in a hidden corner. Third, plant a group of trees near an open field. Fireflies prefer habitat where a group of trees meets open space, which is called a "forest edge." Fourth, include a water source. Maintain a pond or even a small dish with water. If the water stays outside in winter, you may need a water heater. Fifth, reduce light pollution! The darker the night, the better. If you follow these five tips, you'll be well

ahead of most people and enjoy a spectacular light show. Here's a fun fact: Did you know that fireflies love to eat slugs and snails? Fireflies also eat earthworms.

Adding a native bee house is a great way to boost pollination for your yard's plants, teach your children about native bees, and support local insects. Native bees are some of the most efficient pollinators, outperforming European honeybees and even butterflies. Do bees sting? I don't want them on my property! Let's take a moment to clarify. Technically, native bees like mason bees and leaf-cutter bees can sting, but unless you try to catch one—say, in your hand—they usually won't. These bees are so gentle that you can stand in front of their house, and they will just fly past unfazed. I personally have a native bee house in my yard and often work near it without any issues. In the United States, most native bees are solitary and don't have guard bees like colony-nesting species, so they generally don't pose a threat.

Many people often confuse yellow jackets with bees. Yellow jackets are a native species of

wasp, not a bee. While they can be aggressive, they play an important role in the ecosystem and deserve our respect. As a parent, I definitely understand the reluctance to have yellow jackets near my home. In such cases, I would recommend relocating the nest farther away on the property if possible. Be sure to put window decals on windows to prevent bird strikes. Equally important is keeping your cat indoors if you have one. If a cat goes outside, at the very least, it should wear a collar with a bell. Cats are among the leading causes of death for native birds and other wildlife.

Birdhouses and roost boxes are becoming more important as our cavity-nesting birds lose habitat rapidly. What is the difference between a birdhouse and a roost box? A birdhouse is usually an artificial structure designed for birds to nest in. A roost box is a man-made structure meant for holding multiple birds—not for nesting but to provide shelter from bad weather. The entry hole on a roost box is placed toward the bottom to help retain heat, while a birdhouse typically has the entry hole near the top. A roost box also

features perches inside. Neither birdhouses nor roost boxes should be painted, as paint can harm birds. Hole size and placement are crucial. The type of bird you want to attract determines the size of the entry hole and where you place the birdhouse. Installing a metal guard over the hole helps prevent squirrels and non-native birds from enlarging it. Some birds don’t use cavities and instead nest on platforms; species like cardinals, American robins, and doves fall into this group. Usually, you should place birdhouses facing south to southeast. For height, 5 to 7 feet off the ground attracts the most bird species. Some prefer higher, others lower. Make sure your birdhouse isn't painted, has a few drainage holes at the bottom, can be accessed for cleaning each fall, and includes a latch to keep predators out.

Birdhouse, 2025

Pest Management

One goal of ecoscaping is to provide plants for native wildlife. Sometimes, the very animals we aim to help by providing habitat can damage the plants, especially the younger ones. The best way to protect young plants from rabbits and deer is to put fencing around them. For rabbits, a chicken wire fence tall enough to prevent them from getting over works well. Deer can be more challenging because they are larger and can jump relatively high—about 8 feet. You could use an 8- or 10-foot-tall deer fence, or opt for a 5-foot fence with a single strand of visible string about 3 to 5 feet in front of it. The string confuses the deer, making them doubt if they can clear both

fences in a single jump. Alternatively, planting deer-resistant species like Ohio buckeye (Aesculus glabra) and mountain mint (Pycnanthemum muticum) can help. Once established, these plants are better equipped to withstand some grazing. In fact, some grazing can be beneficial, helping to rejuvenate mature plants.

New England Cottontail Bunnies in lettuce, 2021

While plants are young and establishing, some people consider using wildlife scare devices to deter nuisance animals. These devices can have mixed results, but as a natural resource professional, I have found that relying on a single device usually leads to failure. Combining

different types of devices at the same time can improve effectiveness slightly. For example, using one that makes noise, another that lights up or moves, and perhaps a third that sprays water—all together—generally boosts temporary results. Applying a natural spray, like one that smells like predators such as coyote urine, may also help deter animals. Predator decoys that move periodically, either manually or electronically, are also useful. However, animals tend to get accustomed to these devices over time, realizing most don't pose real harm. I've found that physical barriers provide the best results, but if those aren't an option, using multiple solutions simultaneously is essential.

mourning dove nest, 2023

During warmer months, birds primarily eat insects and berries. It's important to plant native varieties that produce plenty of each. Some berry species either require or improve with cross-pollination. To ensure cross-pollination, you need to plant multiple bushes. If you want plants that feed both wildlife and humans, consider planting serviceberry (Amelanchier canadensis) or highbush blueberry (Vaccinium spp.). It takes thousands of insects or more to raise a brood of baby birds from chick to fledgling, which is when the young can fly on their own. During this stage, it's a good time to remove, clean, and prepare your bird feeders for winter, if you use them.

Assuming of course you don't have a pair of birds decide to nest on your feeder setup! Lucky for this pair they decided to nest in the yard of a former federal Wildlife Biologist fully aware of the Migratory Bird Treaty Act and left them be minus the periodic monitoring from a distance. I'm happy to report that the babies all successfully fledged which means they got to the stage where they could fly. Seed-producing native plants like coneflowers and black-eyed Susans help prepare birds for colder months in autumn.

CHAPTER 10
Getting Started

By this point, you've learned the principles of ecoscaping. You've discovered how to work symbiotically with nature, select plants that best match your site conditions, enrich healthy soil, conserve water, and maintain your landscape with care. When you stand in your space, it's natural to ask: Where do I begin? It can feel

overwhelming, but it doesn't have to be. The good news is that native plantings don't have to happen all at once. In fact, the most successful ecoscapes develop gradually, just like natural ecosystems. Begin small, build momentum, and watch your garden evolve over the years. Remember, each step you take helps create a strong, thriving landscape that benefits both your environment and your well-being.

Begin With Observation

Before purchasing plants, planting seeds, or moving soil, spend time observing your site. Take note of aspects like sunlight and shade, wet and dry areas. Is there existing hardscape? Do you want hardscape? Pay attention to where you naturally spend time. Consider which species of plants, birds, and insects already inhabit the area, and which ones you want to attract. Perhaps there's a specific bird you hope to see in your yard. This will help guide your choices of plant species to include. As you observe, think about both aesthetics and practicality, including sustainability. Think long term; for example,

planting a tree right next to your driveway might not be ideal, as it could lift or crack the pavement. Taking these factors into account ensures your landscape will develop into a beautiful, functional, and durable space.

Set Your Priorities

To start, it's smart to set your priorities. There's always opportunity to expand your ecoscape later, but knowing your main goals will keep the initial tasks simple and manageable. What are the one or two most important things you want from your landscape? Is your goal to have a pollinator haven, a kids' play area, a low-maintenance yard, or edible crops? Or perhaps all of the above? Focusing on your top priorities helps you avoid feeling overwhelmed and ensures your efforts make a meaningful difference.

Start Small and Visible

Select a manageable space for your first ecoscape project. Transform a strip of grass in your front yard into a pollinator garden, replace a

single shrub bed with native perennials tailored to your region, build a small rain garden at a downspout, or start a compost pile to nourish your soil. Perhaps it's the area around your mailbox. Small wins boost confidence. Neighbors are more likely to be inspired when they see attractive, visible results. Consider starting with this small step and expanding your efforts over time. Seeing progress encourages ongoing engagement and makes your yard more inviting.

Don't get overwhelmed! For every experienced gardener, there's a trail of dead plants in their wake. This is just part of learning! The good thing about ecoscaping is that they are just plants; if later you don't like something or accidentally kill it (oops!), you can simply edit it. My best advice is to start simple and small.

When working full-time and, for some of us, raising young children as well, time for other activities can be limited, but that doesn't mean it can't be impactful. For those of us who are parents, we need to accept the fact that the ever-growing to-do list will not be completed in a weekend, and that's okay. Prioritize your tasks

and set boundaries on the scope of work you will do in any given time block. Simply put, if you decide that your task will be weeding, don't add the task of pruning shrubs.

By maintaining focus on the task, you will achieve more in less time. Try breaking up single tasks into 20-minute or one-hour segments. I divided the task of redesigning a driveway garden bed and installation into multiple thirty-minute and one-hour sessions. The research, design, and plant-growing phases took place over the winter months, and the installation was completed in late spring. Kids have natural curiosity, and they often enjoy helping; involve them! The task may take longer to finish and might not be perfect, but that's okay. The chance to spark their interest in the natural world and bond with them offers lasting benefits for your family and the future of the environment.

Small Space Gardening

Gardeners come from all walks of life and with them, all different types of planting spaces. Some have multiple acres, while others might only

have a balcony or porch. If you're in the latter group, there are several options! Container gardening is a great solution for those with limited space. For example, a planter with milkweed and goldenrod could create a small prairie to attract Monarch butterflies. Similarly, you could use vertical planters or containers with a trellis for native vines like Virginia creeper (Parthenocissus quinquefolia).

With the container garden “Dos” come the container garden “Don’ts”. Contrary to popular belief, you should never use gravel or stones at the bottom of your containers. When water moves from the soil to the gravel, it creates a perched water table, which can lead to root rot. If you want to see this in action to better understand, you can fill two clear containers: one with gravel followed by soil, and the other with just soil. Gradually add water to each and observe. Another common mistake is using the wrong type of soil. The brand of soil isn’t as important as the type. For containers, you need to use light and airy potting soil. Topsoil, straight-

up compost, and garden soil tend to compact and hinder airflow and drainage.

Medium To Large Space Gardening

You can create a new planting bed or use an existing one. Regardless of which option you choose, it's best to develop a simple plan, emphasizing simplicity. The plan should include the dimensions of the current flower bed or how large you want a new one to be. On grid paper, draw the space using the measurements. Remember to add some character to the bed, so use curves where appropriate. Next, sketch out where each plant will go. You don't need to be an artist; a circle with the plant's name inside will suffice. Including the plant's size at maturity within each circle can help with the layout. Be mindful of space; space the plants according to their size at maturity. Aim to space the plants so there's just a slight overlap at maturity. This approach will make weed control easier later. A common mistake is spacing plants based on their current small size.

Basic Garden Design Strategies

Add character to your planting space by creating gently curving bed edges. Consider incorporating garden decor. Space your plants based on their future mature size, not their size at planting. Create visual harmony through repeating patterns. When planting near structures, place taller plants in the back and shorter ones in front. Foundation plantings should include evergreen shrubs. Typical boxwood shrubs offer little benefit to native wildlife beyond shelter and temporary hiding from predators. Instead, opt for species like American holly (Ilex opaca), mountain laurel (Kalmia latifolia), and inkberry (Ilex glabra). Taller species such as American holly can be left to grow tall or pruned into a hedge. Use a mix of compost and your native soil, and add a small amount of slow-release organic fertilizer to support your plants' growth. Water your new plants three to four times a week during the first year of the growing season. After one year, your plants are generally considered established, and you can reduce watering accordingly.

Make sure to plant appropriately sized foundation shrubs and trees for your home. Planting small shrubs in front of a large house or large shrubs in front of a small house may not look visually appealing. Place taller shrubs or small trees at the corners of your home to create a border effect. An Eastern redbud (Cercis canadensis), for example, can add a bright splash of spring color. Use color schemes by mixing purples, blues, and pinks. White is also a good option, as it pairs well with most colors. Plant in groups of three, five, or in mass rather than alone; repeat plantings for visual interest. Grouping plants with similar leaf structures, like non-native day lilies with native grasses such as baby blue stem, also enhances the aesthetic. Achieving plant balance is another way to create visual appeal.

Besides their cosmetic appeal and benefits for the environment, trees, when strategically positioned, can also help regulate your home's temperature. For instance, planting a deciduous tree on the south-facing side of your property near your house will provide shade during the

hotter months, helping to lower cooling costs. In the colder months, as the leaves fall, the sun can then help warm your home. Be cautious to select smaller trees for south-facing areas if you plan to install solar panels. Additionally, well-placed trees can offer shade in the morning or evening depending on whether they are planted on the east or west side of your property. This is especially useful for patios and decks, since sitting on an unshaded patio in the afternoon during warm months can be uncomfortable. Make sure to plant trees at least six feet away from patios, walkways, and other structures to reduce the risk of roots lifting or cracking these surfaces.

Remove, Replace, and Rewild Gradually

Don't feel like you have to rip out your entire lawn all at once or even most of it at all. Your situation might require space for kids to play, and doing so could scare your neighbors with such a dramatic change! The goal is to remove at least some turf and replace it with native plants; how much is up to you. Change can happen gradually, which might be a better approach,

especially if you have limited time. Remove invasive plants and turf from one section at a time, then replace it with native plants. You can also choose to rewild the area by letting edges grow a bit wild, leaving seed heads, or planting shrubs for birds. Leave the leaves on your property. This step-by-step method can help prevent burnout and spread out costs over time.

One simple way to help wildlife is to replace outdoor white lights with yellow LED lights. This small change can reduce light pollution, making it easier for birds to migrate at night and saving many nocturnal insects, like moths. Moths are a main food source for many songbirds. Although this is not a plant-based change, it can make a big difference. If you take it a step further by using dusk-to-dawn bulbs, you'll lower your electric bill because the lights won't be on when they’re not needed. Plus, it automates your lighting, so you don't have to remember to turn them off.

Work With What You Have

You don't necessarily have to start your native landscape from zero. If you're lucky enough to have some existing plant material to work with, it can help save costs and time. Mature trees, shrubs, and existing perennials may already provide habitat value. Build around and enhance them or transplant perennial plants to improve the area. What plants and hardscape features can you keep? What needs to change? Often, ecoscaping is more about editing through addition or relocation rather than removal.

Connect With Community

You don't have to ecoscape alone. Most gardeners enjoy sharing their knowledge; some even write books! This is a great way to learn about the history of the land around you and exchange ideas. Many towns have native plant groups you can reach out to — such as garden and pollinator clubs, online forums, and seed-sharing groups, to name a few. Some towns also have local nurseries that focus on native plants. Connecting with others offers the chance to

share knowledge, get encouragement, and sometimes even obtain free plants and seeds! Collaborating with local gardening communities can also open up new opportunities for more successful growth.

A Journey, Not a Destination

Getting started with ecoscaping isn't about instant renovation and gratification. It’s about embarking on a journey. With each phase, whether planting a single goldenrod or redesigning an entire landscape, you become part of a larger environmental movement to heal the planet, one ecoscape at a time. The idea is to beautify your yard now while ensuring a healthier planet for future generations. Begin where you are, use what plants and other supplies you have, and do what you can. The rest will grow. Not every idea will work out, and not every plant will survive; that’s okay. Start small, stay committed, and remember that every effort counts in making a difference.

Tools

Keep your tools organized! Knowing where your tools are saves time because you're not wasting it searching for what you need. The extra minute to put your tools back in their proper place will pay off in the long run. Keep blades sharp. Dull pruners can cause poor cuts, which might damage your plant by ripping branches instead of cutting them cleanly.

Speaking of tools, let's discuss augers. Using a soil auger to quickly plant bulbs and corms is an effective trick. This handy device attaches to your standard drill without needing any additional parts. Open the chuck, insert the auger, and tighten the chuck. That's it! Using a soil auger can significantly reduce the time spent on planting, especially when you have many bulbs and corms to plant.

Hori hori knives are Japanese soil tools that serve as versatile gardening tools. These knives are helpful for digging, planting, weeding, and cutting roots with their serrated edges. Instead of purchasing or looking for multiple tools,

owning one that can handle various tasks is practical and money-saving.

Another tool that helps save time on tasks is electric hedge clippers. Make sure to choose one with a long blade; it may cost a little more upfront, but you'll appreciate it when you can reach farther or higher without needing to move a ladder as often. Electric tools, besides not emitting carbon into the atmosphere, also require less maintenance and consequently less time because they don't need gasoline or oil. Electric tools simply lack the higher-maintenance combustion engine with its moving parts. With fewer components, they require less upkeep. Another advantage of electric tools is how quiet they are during operation compared to alternatives.

The Value of Trees

Trees provide numerous benefits, including absorbing excess water, cleaning the air, offering shade that helps cool the immediate area, helping decrease electric bills through cooling, increasing property values, and boosting mental

health. They also serve as shelter for various wildlife such as birds, squirrels, raccoons, opossums, and bats. Moreover, trees produce food sources like fruits, including acorns, berries, and apples. Insects, which are the primary food for birds in spring and summer, find shelter in trees.

As a Forester, I have heard various opinions from homeowners about street trees. Unfortunately, many prefer to remove them because of the damage some of the larger trees can do to things like sidewalks. In situations like this, instead of removing these highly valuable mature trees, there are ways to reduce the damage. Remove the broken sidewalk and pour the new sidewalk so that it curves away from the tree. Use high-PSI concrete for added strength. Additionally, you should reinforce the sidewalk with wire mesh. Instead of cutting roots, you can ramp over them and install double mesh to further strengthen the concrete. Consult or hire a professional and be sure to abide by all laws.

If you can find a contractor who can access the material, I would suggest using permeable

pavement, which is even better than concrete. Permeable pavement is a win all around because it still allows the tree to access water. After all, water can pass right through the pavement, which makes flash flood events a little less dangerous because the water has somewhere else to go.

Don't cut the tree's roots! Trees generally have three main roots, sometimes four. These roots nourish the tree and keep it stable. Removing certain roots is like taking out one or two walls from a building's foundation. If you remove a wall, the structure might collapse! Additionally, local municipalities could issue fines for damaging trees, depending on factors like the extent of damage, the species, and the age of the tree. These fines can amount to several thousand dollars. Make sure to get all necessary permits and advice before doing such work. Why go through all this effort and expense to save a large tree? Because it's worth it. Mature trees absorb more carbon than young trees, meaning it takes several young trees to equal the carbon

removal of one mature tree. The same goes for the excess rainwater they absorb.

Society worldwide needs as many mature trees as possible to combat climate change, so what should we do? Moving forward, there are a few solutions; it's essential to plant species suitable for the location. For example, on a smaller lawn strip about 2½ to 3 feet wide, a serviceberry tree (Amelanchier arborea) or an eastern redbud would be good options. Serviceberry trees grow from 15 to 30 feet tall, depending on the variety. Eastern redbuds are similar in size. Once established, these trees can withstand harsh conditions near roadways, especially if they are underplanted with ground covers to maintain ideal soil conditions. Because of their shorter height, these trees are much less likely to damage sidewalks and other infrastructure.

Sometimes, trees need a little trimming. If your tree could use pruning, contact your local certified arborist to handle the job. A certified arborist will ensure the pruning is done properly and will avoid harmful practices like topping.

Topping can cause the tree to decline slowly and eventually die. If you have some knowledge of trees and decide to do the pruning yourself, be mindful of the best time of year to prune. If you live in the northeast United States, avoid pruning oak species from March through the end of September. This is because pruning during this period can spread Oak wilt disease. Also, be sure to get any necessary permits before starting the work. Government-owned trees, such as street trees, often require permits for pruning and other work.

CHAPTER 11
Growing a Movement

When you started reading this book, you might have been imagining how to improve your yard, porch, or community space. Now, you've learned that ecoscaping is more than just landscaping; it's a movement. Every patch of land cared for contributes to a larger network of ecological resilience. The butterfly that drinks nectar from

your coneflowers could travel many miles to someone else's yard. The rainwater collected in your rain barrel or slowed by your rain garden helps reduce flooding and serves a second purpose. The carbon stored in your soil can help fight global climate change when left undisturbed. What seems small and insignificant on its own becomes powerful when combined with the efforts of thousands of others around the world.

About the author:

Tim earned his Associate degree in Fisheries and Wildlife Technology, a Bachelor of Technology in Wildlife Management, and a Master of Science in Environmental Studies. He has worn many hats (literally and figuratively) in pursuit of his dream to improve our damaged natural world so that his children and future generations can live on a healthier planet and enjoy all the wonders nature has to offer. He has worked various seasonal natural resource jobs, as well as a term federal Wildlife Biologist. Today, he is a full-time working parent to three amazing kids, husband to his loving and supportive wife, and, at the time of writing this book, a certified Arborist working as a Forester for a local government agency. His environmental education and professional experiences have taught him a lot over the years and continue to do so. Tim has been very fortunate to see, hear, and even get hands-on with some magnificent creatures through his work, such as loggerhead sea turtles, American oystercatchers, bobcats, and various songbirds,

to name a few. He's managed the endangered shorebird program on federal land and contributed to salt marsh restoration. Tim is also a USDA zone 7B gardener! As a busy professional who enjoys both the natural world and gardening, he wants to share his knowledge, experiences, and tips he's picked up over the years to help others enjoy what he loves in a way that fits into a busy schedule.

Thank you for reading this book, and I hope you enjoyed it! If you did, I would greatly appreciate it if you scan the QR code below and leave a quick review. Thank you!