Creating Bio-Diverse Habitats at Home





Start Gardening with Native Plants

Wildlife Habitats and Pollinator Gardens

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NATIVE PLANT GARDEN DESIGN AND PLANTING PLAN

Welcome to the transformative world of native plant gardening, where ecology meets beauty and sustainability takes center stage.

This guide introduces a thoughtfully designed wildlife habitat and pollinator garden tailored to the northeastern coastal and mountain region's unique climate and soils.

Designed for avid gardeners, landscapers, and community members.

This plan emphasizes the importance of incorporating native trees, shrubs, perennials, ferns, and grasses to create a thriving ecosystem that supports biodiversity while offering year-round interest and charm.

As urban and suburban populations increase, we must also expand our native plant gardens to provide habitat, and sanctuary for wildlife, including birds, bees, butterflies, and other pollinators critical to the health of our environment.





Easy Care Guide: Creating Native Habitats -

We can restore local habitats by choosing plants that evolved with the regional climate and wildlife. Supporting diverse habitats while creating sustainable, low-maintenance landscapes.

This guide offers an adjustable blueprint for transforming an outdoor space into a naturalistic habitat that can serve as a model for neighborhoods, community spaces, or individual backyards.

This guide delves into various aspects of caring for nature.

By the end of this eBook, you will have a comprehensive understanding and discover sustainable actions to care for your outdoor space while providing habitat for beneficial wildlife and pollinators.

THE VALUE OF NATIVE PLANT GARDENS



Native Plants are Low-maintenance

Native plants are naturally adapted to the conditions of their home region, making them resilient and easy to care for. They require less water, fertilizer, and intervention compared to non-native species.

In many areas of the northeast, where poor soils and periodic droughts can challenge gardeners, native plants thrive without demanding extensive resources.

This self-sufficiency reduces the need for irrigation and chemical inputs, conserving water and protecting groundwater from contamination.

The result is a native plant garden that not only looks beautifully natural but also contributes to environmental sustainability.

Why Native Plants Matter

Native plant gardens are more than just outdoor spaces; they are a bridge between humans and the natural world.

These wild gardens replicate the rich biodiversity of local ecosystems, transforming even the smallest plot of land into a haven for wildlife

By cultivating native species, gardeners contribute to the preservation and restoration of habitats that are rapidly being displaced by urban and suburban development.

Native gardens allow us to engage with nature, offering an opportunity to witness the rewarding interaction between plants and animals.

Whether it's a monarch butterfly laying eggs on milkweed or a songbird foraging for seeds, the interactions in a native garden showcase the intricate balance of ecosystems.



Native Plants Support Local Wildlife

Native plants form the backbone of local ecosystems. Over millennia, they have co-evolved with pollinators, birds, and other wildlife, creating a mutually beneficial relationship.

Here's how native plants support wildlife:
Pollinators: Bees, butterflies, and other
pollinators depend on the nectar and pollen
from native plants like purple coneflowers,
goldenrods, and milkweed. These species
provide pollinators with the essential
nutrients needed for survival.

Birds: Many native plants, such as elderberry and serviceberry, offer berries and seeds that sustain birds through different seasons.

Shelter and Habitat: Native shrubs, grasses, and perennials provide nesting sites and cover for small mammals, birds, and insects.

The diversity of plant structures—ranging from dense thickets to open meadows—creates a variety of habitats for wildlife.

Native Plants Improve Soil Health

Native plants contribute to soil stability and health in ways that non-native species cannot. Some native plants have deep tap root systems that search for moisture and nutrients. Roots improve soil structure by breaking up compacted soil and creating channels for air and water; these roots improve soil aeration and drainage.

Extensive spreading root systems also help prevent erosion. I.E., native grasses and perennials, such as little bluestem, anchor soil and reduce runoff during heavy rains.

Localized native plants support beneficial soil microbes and insects that play a critical role in nutrient recycling and plant health.







NATIVE PLANT PLANNING AND DESIGN

Assessing Your Site:

When evaluating your garden's unique conditions, start by carefully evaluating the unique characteristics of your garden site.

Key Eco-Regional factors to consider include:

Soil Type: In the Delmarva region, for example, sandy loam soils dominate. They offer excellent drainage but often require organic matter to retain nutrients. Sand, Clay, Silt, and Loam usually a mix of three or four, plus organic matter.

Sunlight: Observe how sunlight moves across your garden throughout the day. Identify areas with full sun (6+ hours), partial shade (4-6 hours), or full shade (less than 4 hours).

Drainage Patterns: Note water flow during heavy rains. Identify spots that retain moisture versus those that drain quickly, as this will influence plant selection.

Climatic Conditions:

Consider any challenges specific to your site, Coastal and Mountainous areas, for example, may experience strong winds, which often stress plants.

Deer Pressure: In some areas, native gardens are vulnerable to deer browsing; incorporate deer-resistant species as needed.

Proximity to Saltwater: For gardens near brackish water or tidal flooding, choose salt-tolerant plants.

Use our garden planner to record important site information and our garden journal to track seasonal fluctuations and observations.

When creating a garden for Ecological Balance, it is important to consider the benefits of Layered Planting.



A thriving native garden mimics the structure of natural ecosystems, with plants of varying heights and growth habits working together.

This layered approach provides both visual interest and essential habitat for wildlife.

Trees: Begin with canopy trees like red maple (Acer rubrum), American holly (Ilex opaca), and Sweet-Bay Magnolia to provide shade, shelter, and nesting opportunities.

Shrubs: Add mid-layer shrubs like spicebush (Lindera benzoin) or arrowwood viburnum (Viburnum dentatum) These species offer berries and flowers for birds and pollinators.

Perennials and Grasses: Complete the edges and base layer with native perennials such as black-eyed Susans (Rudbeckia hirta), bee balm (Monarda didyma), and grasses like little bluestem (Schizachyrium scoparium).

This layered design not only creates a balanced ecosystem but also ensures year-round visual appeal with seasonal blooms, textures, and colors.

PREPARING THE SITE FOR NATIVE PLANTS

Planning Garden Layout: Prepare and plan your garden layout with aesthetics and ecological functions in mind. Large trees, for example, will create future shade, shelter, and habitat

High-Density Planting: Cluster plants in large numbers groups of perennial or grass species with similar water, light, and soil preferences. This will resemble nature, simplify maintenance, and maximize health.

Encourage Natural Flow: Arrange plants in organic, curving patterns that emulate natural landscapes rather than rigid lines.

Create Wildlife Corridors: Connect planting areas to form a continuous habitat for pollinators, birds, and small mammals.

Enhancing Wildlife Support: To truly make your garden a haven for wildlife, include features that support diverse species:

Birdbaths and Water Sources: Freshwater is essential for birds, insects, and small mammals. Install birdbaths, shallow dishes, or small ponds with gently sloping sides and rocks or sand.

Bee Hotels and Pollinator Shelters: Provide nesting sites for native bees and other beneficial insects by adding bee hotels, hollow stems, or bare soil patches.

Brush Piles and Logs: Retain logs, stumps, or brush piles to create habitats for groundnesting species and decomposers.

Plant with Wildlife in Mind: By selecting plants that cater to the needs of local fauna:

Host Plants for Caterpillars: Include milkweed (Asclepias spp.) for monarchs and oak trees (Quercus spp.) for a variety of butterfly and moth species.



Nectar and Pollen Sources: Choose plants that bloom throughout the growing season to ensure a continuous food supply for pollinators.

Winter Interest: Retain plants with seed heads, such as goldenrod (Solidago.) and coneflowers (Echinacea spp.), to provide food for birds in colder months.

Balancing Aesthetics and Ecology: Your native garden should reflect both your style and its purpose as an ecological resource.

Design with layers, textures, and colors that complement each other while keeping maintenance manageable.

By planning carefully, understanding your site, and prioritizing biodiversity, your native garden will become a thriving landscape that benefits both nature and humans.

The result is a sustainable and beautiful space that supports local wildlife and celebrates the unique environment of your region.

NATIVE PLANT GARDEN PLAN - PREPARING THE SITE CONTINUED

Proper preparation of your garden site is essential for establishing a thriving native plant garden.

Taking the time to clear and amend your space thoughtfully will set the stage for healthy plant growth and long-term sustainability.

The first step in creating your native garden is to remove unwanted vegetation while protecting the soil structure. Here's how to do it effectively:

Removing Invasive Plants and Weeds: Handpull invasive species and weeds, ensuring you remove the roots to prevent regrowth. Avoid using chemicals that can harm soil health and disrupt beneficial organisms.

Target Priority Areas: Begin with the most aggressive invasive species that threaten native plants. Focus on small patches to make progress manageable and impactful.

Reducing Soil Disturbance: Mow or Cut Vegetation: Instead of pulling up all existing plants, mow or cut them down to ground level. This method leaves roots intact, reducing the risk of soil erosion and promoting stability.

Solarization for Persistent Weeds: For areas heavily infested with weeds, cover the soil with clear plastic sheeting for 4-6 weeks during sunny weather. This will heat the soil, killing seeds and roots.

Regularly test, assess, and amend sandy, clay, or loam soils in new gardens and monitor plant health for future soil test needs.

Sandy loam soils, common in the Delmarva region, offer excellent drainage but can lack organic matter and nutrients.

If your pH is under five, then your soil is acidic and may require organic supplement adjustments to meet the alkaline needs of most native plants.



Soil Testing and Assessment:

Testing Your Soil: Use a soil test kit or send samples to a local extension or online soil test service. We use this <u>Soil Test Kit</u>

Once you have received the results, analyze pH levels, nutrient content, and organic matter percentage.

Identify Deficiencies: Pay attention to low levels of nitrogen, phosphorus, and potassium.

Amending the Soil: Adding organic matter and incorporating compost, leaf mold, or well-rotted manure will improve moisture retention and nutrient content.

Spread a 2-3 inch layer as a mulch or, if adding new plant material, then gently work the compost into the top 6 inches of soil while planting.

Balance pH: If your soil is too acidic, carefully apply agricultural organic lime following quantities specified as part of the soil test recommendations.

For native plants that thrive in slightly acidic conditions, a pH of 4.5-6.0 is ideal. 6-7.5 for alkaline-loving plants.

Boost Microbial Life: Introduce mycorrhizal fungi or compost tea to enhance soil health and support root growth.

Healthy soil is the foundation of a thriving garden! It's more than just dirt—it's a living ecosystem teeming with organisms that help plants grow. We use this mycorrhizalfungi

NATIVE PLANT INSTALLATION GUIDE

Planting is the pivotal moment where your vision for a thriving native garden begins to form.

Initial planting creates the foundation for your garden to develop robust roots and flourish in new surroundings.

This chapter outlines the next steps to ensure successful planting results and long-term garden health.

The timing of planting is immensely significant in the success of your native garden. Selecting the appropriate season enables plants to acclimate to their new environment while minimizing stress and maximizing growth potential.

Early Spring Planting (March-May): Spring presents an ideal opportunity for establishing most perennials, grasses, and shrubs.

With the gradual rise in temperatures and consistent moisture, plants have time to develop strong roots before the onset of summer heat.

Perennials and Grasses: Take advantage of spring's moderate climate to plant species such as wildflowers, sedges, and ornamental grasses.

The fine roots of these plants will establish rapidly and quickly emerge with leaves and blooms that contribute to the ecosystem during their first growing season.

Shrubs: Early spring is also a suitable time to plant shrubs, strong roots will establish quickly, benefiting from the moist soil and cooler temperatures.

Fall Planting (September-December): Fall emerges as the optimal season for planting trees and late-season perennials.

The cooler temperatures reduce stress on plants, while the soil remains sufficiently warm for root development before winter dormancy.



Planting trees in the fall allows them to anchor their roots deeply before the arrival of spring.

Fall-planted perennials benefit from the extended period to establish before the summer's heat sets in.

Hort Tip: Always verify the hardiness zone and specific requirements of each plant to ascertain its optimal planting season, taking into account the longterm weather forecast for your region.



A tree is both a financial and a sound investment in the future. Giving your native tree the best possible start as a keystone species for your region and a magnet for wildlife.

Following these steps will help ensure that each plant has the best chance to thrive:

Prepare the Hole:

Dig a shallow bowl-shaped hole twice as wide as the pot or root ball. This allows roots to spread easily.

Carefully lift the pot or root ball into the hole to check the depth. Ensure the top of the root ball stands slightly proud of the surrounding soil.

Remove the pot or burlap with care, and loosen the roots around the top of the container or ball.

Gently loosen compacted roots by untangling or scoring them with your fingers or a knife. This encourages outward spreading growth.





Position the Plant: Place the plant in the hole so the top of the root ball is level with the soil surface. Step back from the tree and check its positioning.

Add some loose soil to the bottom of the hole so the tree roof flare sits just above ground level, avoid burying the stem or crown, which often leads to root or trunk rot.

Backfill with Fine Soil:

Use the loose soil you removed from the hole to backfill around the roots, making sure no gaps or air pockets remain.

Adding organic compost as an amendment for poor soil at this stage can help generally native plants thrive best in the existing soil conditions, and do not benefit from excess fertilizers.

Water Less Often by Watering Deeply:

Thoroughly watering the tree before and immediately after planting will help to prepare the trees, settle the soil, eliminate air pockets, and provide moisture for root establishment.

PROPER MULCHING OF YOUR NATIVE GARDEN

Mulching is a critical step in protecting your newly planted garden and promoting healthy growth.

Properly applied mulch helps retain moisture, suppress weeds, and regulate soil temperature.

Recycled Cardboard Mulching Technique:

Place a thick layer of recycled cardboard around your new plants. This acts as a weed barrier and gradually decomposes to enrich the soil.

Overlap cardboard edges to ensure complete coverage, leaving no gaps for weeds to grow through.

Water the cardboard thoroughly, saturate both the soil and the cardboard with water to hold it in place, and begin the decomposition process.



Adding Organic Mulch:

Cover the cardboard with a 2-3 inch layer of composted leaves, wood chips, or garden compost.

This creates a finished look and adds nutrients to the soil as it breaks down.

Keep the mulch at least 2-3 inches away from the plant stems to prevent rot and pest issues.

Mulching has many benefits, it conserves soil moisture by reducing evaporation.

Suppresses annual and perennial weeds, reducing maintenance.

Medicates soil temperature, protecting

Moderates soil temperature, protecting roots from extreme heat or cold. Improves soil structure and fertility over time as it decomposes.

SEASONAL CARE AND MAINTENANCE:

Spring is the season of renewal, and proper garden care sets the stage for a successful growing season:

Spring (March-May) - Cut back perennials and ornamental grasses to 6–12 inches to encourage fresh growth. Add a fresh layer of mulch to retain moisture, suppress weeds, and improve soil health.

Plant new perennials, shrubs, and coolseason vegetables. Watch for invasive weeds like dandelions or chickweed and remove them promptly before they spread. Divide and transplant overcrowded plants to improve growth and garden layout.

Summer maintenance focuses on keeping plants hydrated and healthy during the heat:

Summer (June-August) - Water deeply during dry periods, focusing on young plants. Deadhead flowers like Black-Eyed Susan and Coneflower extend bloom periods. Thin overcrowded plants to promote airflow and reduce disease.

Fall (September-November) - Plant trees and shrubs to take advantage of cooler weather and increased rainfall. Leave seed heads and grasses standing for winter interest and wildlife habitat before chop and drop.

What is Chop and Drop?

You chop back perennials and grasses as close to the start of the next growing season as possible.

During a late winter's walk in the garden, you can begin to break a few brittle stems and let them drop to the ground.

This natural mulch mimics wild ecosystems, where plants die back, weather, and decompose, enriching the soil for the next growing season.





Winter (December-February) - Allow the garden to rest; do not disturb standing vegetation. Water newly planted trees and shrubs in warmer weather or prolonged dry spells.

Plan for new plantings or expansions. Clean and repair bee hotels or birdbaths. Sort seeds and prepare seed trays and pots for the new season.

NATIVE PLANT GARDEN PLAN - LONG-TERM CARE

A well-designed native plant garden is a living, evolving system that thrives with your thoughtful maintenance. Long-term care not only ensures the health and vitality of you and your plants but also sustains the delicate balance of biodiversity.

The following chapters cover the essential practices for maintaining your garden, from plant rejuvenation to weed control and wildlife habitat enhancement, all with a focus on ecological stewardship.

Natural habitats are dense thickets, in adapting to natural gardens, pruning, and thicket management are critical.

Periodic pruning and rejuvenation, for example, are crucial for sustaining the health and productivity of trees and shrubs. These practices promote vigorous growth, enhance flowering and fruiting, and prevent overcrowding.

Coppicing is a traditional method of cutting shrubs or trees back to near-ground levels to stimulate fresh, robust growth.

Timing: Perform coppicing every 3-5 years during late winter or early spring, before new growth begins. Recommended Species: Beauty Berry (Callicarpa), Serviceberry (Amelanchier), red twig dogwood (Cornus sericea), and elderberry (Sambucus canadensis).

Essential Steps:

Use regularly sterilized, sharp pruning tools to make clean cuts just above a dormant bud or the plant's base.

Remove older, thicker, or damaged stems first, retaining younger, more vigorous growth.

Clean up well to prevent the spread of disease or pests, clean thoroughly around the base of the shrubs, and use sterile mulch to retain moisture and suppress weeds.



Selective Tree Pruning:

Regular tree pruning maintains structural integrity and encourages healthy development.

Remove dead, damaged, or diseased branches first to prevent decay, and thin, dense canopies to improve light and airflow.

Important to shape young trees for balanced growth in the early years of development.

Always use clean, sanitized tools to avoid spreading disease, and try to avoid removing more than 25% of a tree's canopy in a single season.

Tip: Focus on dormant seasons (late fall or early spring) for major pruning tasks to minimize infection and stress on plants.

Large tree pruning projects should be undertaken by an arborist, when planting trees, it is always a good idea to make friends with a local tree surgeon.

How to Manage Weed Control:

Chemical companies have encouraged us to believe that a weed is any unwanted plant. In reality, native weeds (wildflowers) are not the problem. Invasive weeds, however, can quickly spread and disrupt the balance of a native, wild garden, competing for resources and threatening biodiversity.

Invasive weeds have been introduced and, in some cases, naturalized and therefore competing directly with local, regionalized native flora and fauna

Limit weeding to every two weeks and weed on rotation, focusing on rapid growing and budding weeds as they will quickly flower and thousands of seeds if missed.

Target fast-growing invasives like Japanese honeysuckle (Lonicera japonica) and garlic mustard (Alliaria petiolata).

Manual Weed Removal:

Hand-pulling weeds ensures minimal soil disturbance, preserving soil health and reducing the chances of erosion. It can also be therapeutic when part of a routine maintenance schedule.

Tips for Success:

Weed after rain when the soil is soft, making roots easier to extract.

Use hand tools like a hori-hori knife for deeply rooted weeds.

Dispose of invasive species carefully to prevent reseeding.

Preventive Measures:

Apply a 2-3 inch layer of organic composted mulch to suppress weed growth and retain soil moisture.

Incorporate fast-growing groundcovers like creeping phlox (Phlox stolonifera) or golden alexanders to outcompete weeds naturally.





How to Encourage Soil Biodiversity:

A thriving soil ecosystem is teeming with life, from bacteria and fungi to earthworms and insects. These organisms play vital roles in breaking down organic matter, cycling nutrients to make them available to plant roots, and improving soil structure.

Feed the Soil Naturally: Organic matter is the primary food source for soil organisms. Regularly adding garden, kitchen waste, or composted mulch ensures a steady supply of nutrients.

Avoid Soil Compaction: Limit foot traffic and heavy machinery in garden beds. Use green mulch crop covers as living pathways or place stepping stones to distribute weight.

While nurturing your soil, be careful not to resort to deep digging and chemicals.

Say No to Synthetic Fertilizers, which can lead to nutrient imbalances, they reduce beneficial microbial populations and pollute waterways through stormwater runoff.

Beware of Over-Amending: Too much of a good thing, like compost or lime, can disrupt the balance of nutrients and harm plant health.

Sustainability Tip: Rotate native annuals or short-lived perennials by collecting seed and sowing in newly planted areas or in any gaps in planting that form.

Healthy soil does not happen overnight, but with consistent care and attention, it becomes a living, breathing ecosystem that supports your plants and contributes to a sustainable garden.

By prioritizing natural long-term soil health, you will create a productive, resilient growing medium that will continue to improve.





ENGAGING COMMUNITIES AND NEIGHBORS:

Building Connection Through Native Plants:

Native plant gardens are more than beautiful landscapes; they are vibrant ecosystems that foster biodiversity and a deeper connection to the environment.

However, their greatest strength lies in their potential to engage communities and neighbors, transforming gardens into shared spaces of education, collaboration, and environmental stewardship.

Native plant gardens can unite communities while supporting biodiversity and sustainability. To foster engagement:

Educate: Host workshops, create informative materials, and collaborate with schools to share the benefits of native plants.

Involve the Community: Organize planting days, form garden committees, and encourage garden challenges to inspire participation.

Create Gathering Spaces: Add benches or shaded areas and host events like seasonal festivals, classes, or nature walks.

Build Partnerships: Collaborate with local businesses, nurseries, and environmental organizations for resources and support.

Celebrate Success: Share photos, updates, and stories to showcase the garden's impact and recognize contributors.

Address Concerns: Communicate openly, listen to feedback, and educate on the natural evolution of native gardens.

By engaging neighbors, native plant gardens become hubs of connection, education, and environmental stewardship, creating lasting benefits for people and nature.





NATIVE PLANT GARDEN DESIGN - CONCLUSION

CHAPTER 9

CONCLUSION. REFERENCES AND BONUS ARTICLES

Congratulations on completing the Native Plant Garden Plan!

By embracing native plants, you're not only crafting a beautiful, sustainable garden but also contributing to ecological restoration and biodiversity. Whether you're a beginner or seasoned gardener, your efforts ripple out, supporting pollinators, wildlife, and communities.

This chapter provides a brief recap, references for further learning, and bonus articles to deepen your understanding of native plant gardening.

References:

Trusted resources to expand your knowledge of native plants and ecological gardening:

- 1. Lady Bird Johnson Wildflower Center Learn about native plants and find species suitable for your region, wildflower.org
- 2. National Wildlife Fed: Native Plant Finder Discover plants that support local pollinators with your zip code. nwf.org/NativePlantFinder
- USDA Plants Database
 Access a comprehensive database of plants native to the U.S. plants.usda.gov
- Pollinator Partnership
 Explore resources for creating pollinatorfriendly habitats. pollinator.org
- Audubon Native Plants Database
 Find bird-friendly plants tailored to your area.
 audubon.org/native-plants
- Ecological Landscape Alliance
 Articles and webinars on sustainable practices.
 ecolandscaping.org
- 7. Home Grown National Parks Doug Talamay, How Can I Help? homegrownnationalpark.org



Bonus Articles:

Here are upcoming articles to inspire your native plant journey:

How to Create a Pollinator Paradise at Home. Learn how to design a garden that attracts bees, butterflies, and hummingbirds. Read Articles

The Role of Native Plants in Climate Resilience Explore how native plants help mitigate climate change effects.

Read Article

10 Essential Native Plants for Small Gardens A list of versatile, easy-to-grow native plants ideal for compact spaces.

Designing with Seasonal Succession in Mind Tips for maintaining year-round interest in your native plant garden.

How to Engage Your Community in Native Gardening

Strategies for sharing your native plant passion with neighbors and friends.

TOGETHER WE WILL

Plant Hope Nurture Nature Harvest Harmony

NATIVE SEED SHOP

Congratulations on completing this essential guide and your first step to creating a thriving native plant garden for your community!

Embracing native plants is more than just a gardening choice—it's a commitment to sustainability, biodiversity, and fostering a deeper connection with the natural world.

I hope this guide has provided you with valuable insights and inspiration to design, plant, and nurture a beautiful garden that supports local wildlife and the environment.

Happy gardening, and be sure to complete our next steps:

A Natural Guide to Soil Management and Sustainable Composting to Try at Home.

