



PRFCT
EARTH
PRJCT

The Perfect Earth Project promotes
Nature-Based, Toxic-Free landscare practices
for the health of people, their pets and the planet.

The Basics of Nature-Based LandCare

A Perfect Earth Leaflet for
Landscape Professionals (and
their clients)

Photo by: Alan Pollack-Morris



Design and photo by Abby Lawless, Farm Design

What is Nature-Based LandCare?

Introduction

We are landscape professionals. We have the Earth in our hands, we are not treating it well, and we are harming ourselves. Why don't we try something different? Landscape professionals can play a significant role in saving the planet's living resources. It is no more expensive to do than what we are doing now, it is not difficult, it is much healthier for us, and very enjoyable. So, if you knew how to

do it, and if your clients were in agreement, why not? Wouldn't you like to be a leader in this critical and empowering process? *Wouldn't you like to be a steward of the Earth?*

As landscape professionals, our time at work is mostly spent in "attack mode" – mowing, clipping, chopping, chipping, blowing, smothering, and spraying; to

force landscapes into the shapes that our clients request. This is tough on plants, and tough on us. We are exposed, every day, to loud equipment, toxic fumes, and harmful chemicals. The more we force landscapes to look “neat and tidy,” the more tidiness our clients expect, and the more damage is done. This approach to landcare is not caring, it is harming. Why are we doing this?

It isn't obvious, but human life depends on biodiversity: the complex mixture of plant and animal species that make up life on earth. The problem is, biodiversity is in decline, it is slipping away at an alarming rate. One third (3 billion) of our birds – gone. Sixty percent of our insects, including our beloved bumblebees and fireflies – facing extinction. The primary causes of biodiversity decline is loss of habitat and use of pesticides. Habitat is food, shelter and water. We are making landscapes with no place for habitat, and we are spraying them with pesticides. Our neighborhoods are uninhabitable for insects and the birds that depend on them for food. As we continue to take over nature's places, where will nature live?

The way to make it work for nature (and us) is to work *with* nature, not against it. If we get to know more about the lives of plants and insects and stop attacking them, we can live peacefully with them in landscapes that are beautiful and healthy. We can become a community of professionals who are caring for land, protecting all life forms, and earning respect for doing so. We can help to save our environment ... and ourselves.

It is not difficult. It is called *Nature-Based LandCare*. It is a new way to practice our profession. The hardest part is learning to change our long-held beliefs and habits; to

look closely, and let nature, the soil, the place and the plants tell you what they need. Can you trust nature to lead the way? Can you promise every place you work to do it no harm and make each property a safe place for birds and bees and butterflies? (And for you?) Let us all work together to make a sustainable future for us, our pets, and our planet.



Photo by Abby Lawless, Farm Design

Part One.

What is Nature-Based?

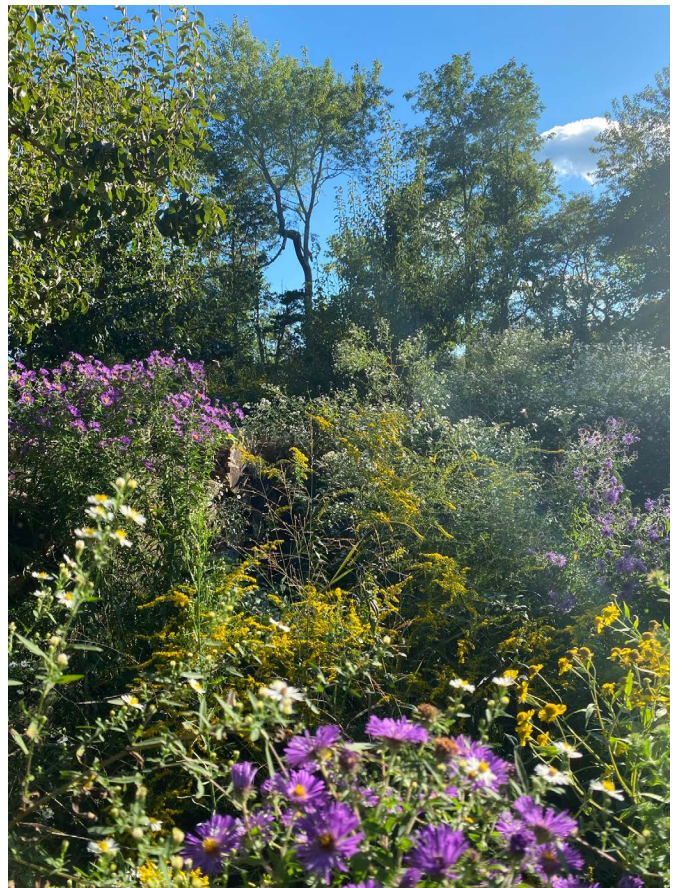
Nature-Based is working with, not against nature. It is about the plants you choose, where you plant them, and how you manage their soil and water. It is about new practices, not new products. How does that actually work? Well, how does nature work?

For millions of years, plants have evolved to thrive in the places they were born. They did this without irrigation, fertilizers, mulch or pruning; they did fine without us.

Our modern landscapes have drastically changed this elegant natural system. Residential and recreational landscapes, filled with non-native plants and strict geometric shapes, rely on fossil fueled equipment, chemicals, irrigation, and pruning to meet an ideal that is more like the inside of a house than the outside. That's not natural. What is?

The Simple Principles of Nature-Based LandCare:

- 1. Plant Native Plants.** They need so little, and they give so much.
- 2. Remove Invasives.** Take out the non-native plants that want to take over.
- 3. Use No Chemicals.** Healthy landscapes, like healthy bodies, can only be truly healthy when their natural immune systems are not disrupted with chemical “drugs.”
- 4. Go Electric.** No noise, no pollution—not more expensive, not less effective. (Bonus: people won’t cover their ears and run away from you)
- 5. Maintain Biomass.** Leave the leaves—and all organic matter. Keep the food your plants made for themselves. What could be better?
- 6. Save the Soil.** Soil is fundamental to plant health to protect it from harm.
- 7. Mind the Mulch.** Why not manage weeds and moisture by planting more plants?
- 8. Water Smart.** Only as needed: very seldom, very deep.
- 9. Prune Prudently.** Stop chopping! Every cut is a wound.
- 10. Plant Properly.** Do right by roots.
- 11. Reduce Lawn Size.** Give the lawn you aren’t using back to the birds, bees, and butterflies. Maintain the lawn you keep as PRFCT (toxic-free).
- 12. Plant a Pollinator Patch.** Add wildflowers and enjoy the show.
- 13. Let Go, Have Faith, Have Fun.** Change from the military uniform/buttoned up landscaping style into something more comfortable, loose and personal. Let your landscapes surprise you (and your clients).



Part Two: How To

1. Plant Native Plants

Native plants are the plants that evolved in a place, so, of course, they are right at home in the soils and climates where they evolved. They have been there, doing fine, long before humans showed up. Native plants do not need us to give them extra watering, feeding, or pruning. But they give to us: they feed and shelter the birds, bees, and butterflies that evolved with them. And their beauty gives us joy.

If 70%—or around two out of three—of the plants on a property are native, they will provide enough habitat to provide for healthy populations of birds, butterflies and bees. The more different the types of native plants in a landscape, the more different pollinators and birds they will feed and shelter. Any landscape can go from being an ecological minus to a fabulous plus. Anyone can do this, in any place. Start small, go large. First, get to know your natives.

Would you like a list of native plants that would be good for your jobs? Check with a cooperative extension agent, local nurseries, garden centers and online databases. Try not to buy any that have been grown with pesticides (especially neonicotinoids).

for lots more info, go to www.234birds.org

Do you know which plants on your clients' properties are native? Ask an expert from your local cooperative extension, or use a plant identification app, such as iNaturalist.



Photo by Alan Pollack-Morris

The iNaturalist app is available at www.inaturalist.org

What to avoid? Exotics. Non-native plants are called “exotics.” They aren’t all bad, but since they evolved somewhere far away, many of them need extra care from us: water, fertilizer, pesticides, and winter protection to survive. Some exotic plants are sold because “nothing will eat them.” So why not stay away from the ones that ask for a lot and give nothing?

2. Remove Invasives

Invasives are exotic (non-native) plants that are so aggressive that they are out-competing native plants, which reduces the food available to native animals and insects.

Many exotics were introduced as ornamental plants because they were pretty and easy to grow. Too easy. They have done so well that they have moved from our gardens and are taking over our roadsides, meadows, and forests. Some, like Oriental Bittersweet, Autumn (Russian) Olive, and Purple Loosestrife have become such a problem that they are now illegal to sell in many states.

There are more, like Silvergrass (*Miscanthus*) and Butterfly Bush (*Buddleia*) that are just beginning to move out into the wild, and should be banned from sale, so please don't buy or plant them.

Many invasives, such as Japanese Knotweed and Mugwort, can be very difficult to kill. Resist the temptation to use herbicides and stick with non-chemical methods such as smothering with cardboard and a deep layer of wood chips or regular cutting and pulling. Do not let them get large or go to seed!

Stay informed on your local invasives and how to control them through your local Cooperative Extension: www.gardeningknowhow.com/extension-search

3. Use No Chemicals: Control insects and weeds naturally

Typical landscape chemical programs promote a cycle of dependency. Fertilizers cause plants to push rapid, weak growth; they then become more susceptible to insects and fungus infections, which are in turn treated with insecticides and fungicides. The fertilizer-stimulated growth is removed with constant pruning, which is harmful to the plant, and the twigs and leaves are taken to the landfill where they produce climate-warming gasses. The plant is then given more fertilizer to compensate for its loss and stimulate the plant to push more growth, which requires more pesticides and more pruning. And around it goes.

This is clearly a good business model for landscape companies—and a very bad one for everything else. Pesticides that are known to cause cancer, asthma, autism, and nervous system disorders are being applied in large doses to the places where we work and our children play.

The typical American home landscape uses four to ten times more pesticides per square foot than a conventional farm.

www.beyondpesticides.org/assets/media/documents/lawn/resources/bp-fact-lawnpesticides.081417.pdf

Chemicals harm us, our pets, and the planet—yet we continue to expose ourselves to them in pursuit of an artificial landscape ideal.

Pesticides (even the organic ones) kill. They kill the bad and the good. But what is bad and good in nature? A nature-based, do no harm, no-kill approach allows nature to step in and take care of problems in its own way. Why not step back and give natural systems a bit of time, and a bit of trust? There is really nothing to be lost. Were you going to eat those leaves? Or do you want to let them become food for the caterpillars that will ensure a healthy new batch of chickadees?

Waiting and trusting is better if you understand what is happening: What do you know about the weeds and the insects you think you should kill? How do you decide which are bad and which are good if you don't know what they are and what role they play in the food web? Maybe that bug you just squashed was the one that was about to eat some other bug, or is good food for baby birds. Maybe that weed you just pulled was a rare native plant that thought it had found a home in your nature-based landscape. Get to know these life forms by name, make new friends, and a whole new relationship with nature.

Insect pests: Insects are important as pollinators and food for birds and other insects. Many feed on leaves, the salad bar of the food web. Plants have evolved to share their leaves with insects, but even though we aren't eating those leaves ourselves, we don't want to share them, so we spray at the first sign of insect-nibbling. This kills the insects that are eating the leaves as well as the insects that



would have eaten them—and thus the food web cycle is broken. If instead, you wait, insect predator populations will arrive to consume any insects that are getting out of hand. In the meantime, the plants can handle it, the birds have a banquet, and the environment (and you) have been spared exposure to dangerous toxics. If a plant tends to get badly destroyed by insects, it is best to let it go and plant something more resilient. Plant something in tune with the system.

When you see caterpillars on a plant, rejoice! Think about the fact that a chickadee needs about 20,000 caterpillars each year to raise enough chicks to maintain a healthy population. Cheer them on!

Weeds: Any unwanted plant is called a weed. First of all, enlarge your circle of friends. Maybe the only plants you really don't want are the ones who don't gracefully share space, like invasives, who tend to take over a planting. They are your weeds. The usual chemicals used for managing weeds—herbicides like glyphosate (RoundUp), pre-emergents and broadleaf killers—are dangerous for you to handle, and bad for nature too. The best way to manage weeds is to grow super-healthy plants, and so many of them, that there simply isn't any room for weeds. You won't need a blanket

of mulch if you cover every bit of soil with plants, just like nature does. Some hand-weeding will be required at first while the plants grow in, but over time it will be less and less.

Fungus problems: Fungus infestations are most often caused by chemical fertilizers (overstimulated weak growth), incorrect watering (fungus loves wet), and unsuitable plant choices. The right plants, grown with natural practices, can naturally resist fungus problems. If they can't, don't keep them. Fungicides are some of the most toxic of the toxics. They kill the soil fungal network, a critical component of plant health; they are harmful to beneficial soil nematodes, which control grub populations; and they are very bad for you. **

4. Go Electric/Reduce blowing

It is a good business decision to start replacing your gas-powered machinery with electric. There are now many good product options available and many places have rebate programs to reduce the cost. Gas-powered leaf blowers make life easier, and miserable. They blow stuff away, but they produce high levels of noise and air pollution which are harmful for the operators. They blast soil and leaves, damaging them and the insects who live there. Electric blowers are better. Rakes and brooms are best, and not so labor intensive when a garden is designed with this in mind: designed for independence.

quietcommunities.org/quiet-outdoors-initiatives



5. Maintain Biomass: Close the food loop

Biomass is organic matter: all the leaves, stems and wood that come from plants. When biomass decomposed, plants eat it. Plants prefer eating [the biomass they made themselves; the leaves and twigs they dropped at their feet. This is the food web: plants feeding the soil, which feeds the plants – a perfect closed loop system. Instead of paying to send grass clippings, leaves, and woody matter to the landfill, keep them, compost them, and feed them back to the plants that made them. Instead of buying foreign and synthetic products—fertilizers and mulches products—use what you have, for free, right on your property. Use a mulch mower which chops grass and leaves up very small so you can leave them in place. Spread chopped leaves over bare soil, make walls with logs, or make habitat piles with twigs, paths with wood chips. Be creative! And compost the rest.

Compost is made by mixing together green (nitrogen) and brown (carbon) matter like leaves, twigs, wood chips, garden cuttings, leftover soil, and kitchen scraps— i.e. everything a garden produces, plus all the vegetables from the kitchen. You can just pile it up and leave it, or, you can help it break down faster by keeping it moist (not wet) and aerated with regular turning. If you really work at it, with the right mixture of air, moisture, carbon and nitrogen, the decomposition process will make the compost heat up. This makes the process go faster and is helpful for killing weed seeds. If your compost doesn't get hot, very few do, it takes alot of attention. The advantage of a hot compost is that it kills weed seeds. If like most of us, your compost is not hot, remove seed heads before adding plants. When compost is done, it has no woody bits left. Use it to cover bare soil, dig into new beds, and to spread on the lawn. Compost is organic matter (it is not soil, which also contains minerals) so do not use compost alone for filling raised beds or planters.

6. Save the Soil

Soil is alive. In addition to clay, loam, sand, and organic matter, it contains billions of microscopic organisms. One teaspoon of soil contains more tiny lives than there are people in the world. These organisms - fungi, bacteria, and insects—are altogether called the soil biome, and without it there would be no land-based life on earth. The soil biome dissolves the minerals in the clay, loam, and sand, and decomposes the organic matter. It then feeds it all to the roots of plants. When we apply fungicides, bacteriocides, or insecticides, we kill the soil biome, which is, therefore, not great for life on Earth.

To stay alive and healthy, the soil biome needs food (organic matter), water, and air. Removing

biomass removes organic matter and starves the biome. Compaction removes oxygen and suffocates it, overwatering drowns it, and underwatering dehydrates it. Caring for soil and the biome is as simple as leaving biomass, managing compaction, and watering correctly. Soils that have been damaged by chemicals and unhealthy practices can heal themselves as long as you recognize these simple needs. You can speed the healing process by adding compost, aerating, and watering wisely. (See #8, on this page.)

There is a good deal of talk about soil testing to inform fertilizer programs. Since the nature-based approach recommends letting nature do the work rather than adding fertilizers and other purchased inputs, soil tests and fertilizers aren't important if your goals are reasonable and not rushed. See the lawn chapter for more information.

7. Mind the Mulch: It's madness

Mulch started out as a pretty good idea: A layer of organic matter that keeps the soil cool and moist, enriches it, and suppresses weeds. What mulch has become in the landscape world is something else, something that no longer makes sense. Every landscape is now spread with a growth-suppressing blanket of processed wood products, often colored with toxic dyes, that are shipped from foreign places in plastic bags and heaped deep on garden beds and under trees. People think it gives a garden a "finished" look. But wait, a landscape, like a person, is always growing, and changing, and getting better, so why would we want it to be finished?

Mulches do suppress weed growth. They suppress good growth too. They smother roots and lock up nitrogen. The volcano-shaped piles at the base of trees cause girdling roots, lack of oxygen, and lead to long term decline. The way nature mulches is with plants. No spaces in nature are ever bare. Plants are social, they want to be together. If you can't buy enough plants to fill a space properly, why not start with a smaller space or mix in a fast-growing ground cover, or toss in some seed of a low-growing annual to hold the space until the permanent plants fill in? It is fine to use your home-made compost as mulch, to cover any remaining bare soil.



Volcano mulching starves roots of oxygen and weakens trees

[The definitive guide to mulch and mulching](#)

8. Water Smart: Think Like Rain

Think like roots too: Roots want to grow deep, away from the hot sun and drying winds, deep down to where it is cool and dark and the soil biome is there to welcome and nurture them. That's where the water needs to be. Watering long (at least 30 min) and deep (6"-8") gets it down there. Watering short (10 or 20 minutes) only keeps the top few inches wet and forces roots to stay close to the surface, where they get too much sun, dry out faster, are susceptible to foot and mechanical damage, and where grubs are waiting to eat them.

Watering too often (more than twice a week) doesn't encourage roots to go deep for their water and doesn't give plants a chance to ever dry out, which causes fungus problems (think wet socks all summer).

The person responsible for the health of the plants should be in charge of watering times, typically this is not the irrigation company.

It is standard practice for irrigation companies to open irrigation systems in early spring, set the clocks for every other day, 20 minutes per zone, and leave it that way until they come back to close it in the fall. Everything about this "set it and forget it" is wrong. Too early, too often, too short, and out of tune with the weather.

In the spring, there is plenty of water in the ground. Wait until the ground is dry (at least 6" deep) or the plant show early signs of wilting (footprints show in lawns) before starting to irrigate so that the roots stay down deep where the moisture remains. Watering early will encourage roots to grow near the surface where they will not be happy when the sun gets hot. Watering (and fertilizing) in early spring (the typical "lawn wake up" treatment) causes fungus problems in June.

A bright green lawn in early spring is a sure sign of artificial stimulation and likely fungal problems in early summer. Resist the temptation to be the first-est and fake-est: let lawns sleep as late as they like and wake up rested, strong and healthy. When it is time to water (generally mid June in the Northeast) and for the rest of the summer, water only when needed (dry 6"-8" down) and then water deep (6"-8") again. Set the amount of watering time according to the plants, the soil, the slope, and the sun/shade.

How to know how much to water and when? Try using a moisture meter with a 12" or longer probe. In very hot, dry weather, watering may need to be done over two consecutive days to avoid runoff. Consider installing a digital irrigation clock that can be operated from your phone so you can check all your jobs regularly and only water as needed.

Newly planted trees and shrubs will benefit from drip irrigation if it is installed properly. The tubes should cover the root ball, as well as a few feet beyond, to encourage roots to grow out into the surrounding area. If your trees and shrubs are correctly chosen for the area, they should be fine without supplemental water after they get established in 2-3 years.

Year 1: 3x/week for 30-45 min.

Year 2: 1 or 2x per week 30-45 min.

Year 3: week for 30-45 min.

In cases of extreme drought, use your lawn irrigation or set a sprinkler out for a few hours to replace the day of rain that isn't happening.

9. Prune and Clip with Care and Kindness: Every cut is a wound

Every time you shear a hedge, chop back a shrub, or strip a tree of its interior growth, you are creating wounds. Each wound opens the plant to insects and infection. Each wound needs to heal, which drains a plant's energy. This is not good for plants. They are much better left to grow as they wish. Yes, it is ok to remove crossing/rubbing branches and odd, straggly growth, but overall, choose and plant trees and shrubs with enough room for them to grow to their full and natural sizes and shapes—and let them be.

Every time you cut the dead wood from your trees and shrubs you are removing a bird feeder. Dead wood in woody plants provides a unique habitat for the insects that birds need. Standing dead trees, known as snags, provide homes for cavity nesting birds, convenient insect meals, and year-round entertainment for humans. If too close to a house or a safety hazard, cut off most of the limbs and leave the trunk as a bird totem.





10. Plant Properly: It pays.

Most trees are planted too deep. The depth is important because trees breathe through their roots. Most tree roots grow around 8"-12" below the soil surface. Deeper than that, they don't get enough oxygen. In today's nursery trade, trees are grown from cuttings, not seed, and by the time the tree gets to you it has probably been replanted a few times, each time deeper. Deep trees may slowly suffocate, or, looking for oxygen, might grow new roots straight out from the buried part of the trunk. These "adventitious" roots over time can girdle (strangle) the tree. To plant a tree properly, remove all wire baskets, treated burlap, and plastic twine. Remove all excess soil from the top of the root mass. Girdling roots (the ones that are wrapped around the root

ball) should be straightened out or cut. The tree should be placed in the planting hole so that the trunk flare is visible above the soil level.

When a tree is not growing well, the first place to look is at the ground.

It is easy to spot trees that are planted too deep: the trunk goes straight into the ground like a post, instead of a gentle flare. Also, they often show signs of stress, such as vertical cracking in the bark, and excessive sucker growth on trunks and limbs. Some never grow well; others will grow at first, but may eventually decline from girdling root damage and blow over in storms.

Due to the high cost of soil, container grown shrubs and perennials are now grown in planting



mixtures that require constant water and fertilizer to keep the plants alive. It is a good idea to remove as much of the planting mix as possible when planting so the roots come into contact with real soil. Plants with tight masses of roots should be gently opened up, and spread out or cut with a sharp blade to release roots to grow out into surrounding soil.

All new plants should be carefully backfilled and watered to ensure that there are no air pockets. The best way to do this is to keep adding water as you put soil around the plant.

11. Less Lawn: More PRFCT

The U.S. has around 60 million acres of lawn, which uses more chemicals and water than any agricultural crop. Think of this as a big opportunity waiting for you.

Lawns are exotic monocultures: they are not native and have no diversity. They are pushed to perform at a level that causes constant stress. All this makes them highly vulnerable and needy; the more “perfect” they are asked to be, the more they ask of you.

Why not reduce the water, chemicals and mowing by reducing the amount of lawn? Keep just enough for play and lounging, make it PRFCT (no chemicals), and fill in the rest with native plantings. You have just decreased climate change, increased biodiversity (butterflies, bees,

birds!), reduced pollution, stopped exposing yourself to harmful chemicals, and made something beautiful. What's not good about that?

How to have a very nice lawn without chemicals? Make it PRFCT:

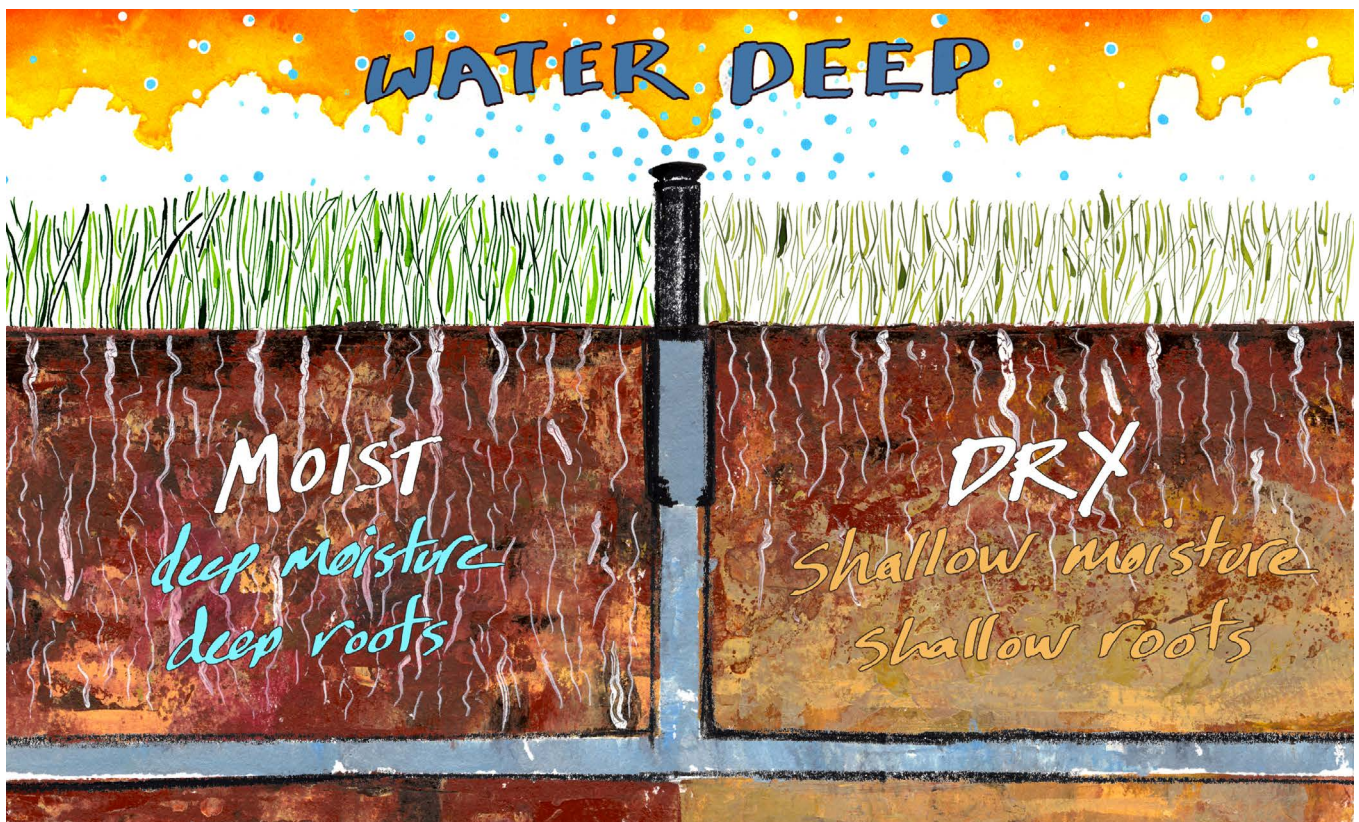
- **Mow High:** Grow to 4", cut to 3". Tall grass shades and cools the soil, which retains more moisture. Longer grass leaf blades have more surface to gather energy from the sun and grow deeper roots which provide more nutrients to the blades.
- **Mulch mow, leave clippings and leaves:** Grass clippings are grass food: they provide around 25% of a lawn's nitrogen needs. Mulch mowers chop grass fine enough to decompose quickly. Mow when grass is dry (don't irrigate on mow days!) and the clippings will be gone in a day. Remove and compost clippings in areas your clients walk on often. Do not worry about thatch: if you aren't using chemicals, the microbes that break it down will be alive and at work. Thatch doesn't happen on a PRFCT lawn. In the fall, mulch mow and leave leaves—more food for the soil.
- **Love clover:** it adds nitrogen to the soil, fills in bare patches, and stays green in hot, dry weather.
- **Outcompete weeds:** weeds need open and sunny spots to move in. Shade and crowd them out by mowing high and overseeding bare patches. Areas that are always weedy are telling you something: The soil needs attention or it is too hot (between and along paving) and not right for turf grass, try a ground cover.
- **Have patience:** new lawns grown from seed, have lots of open sunny spaces so they typically



© Dominick Santise of Studio 1482

have a lot of weeds until the grass grows in enough to crowd them out. Keep seeding and mowing high and the grass will eventually win. Spread compost on bare patches and over seed immediately to prevent weeds from moving in. Using herbicides does not help, it just opens new spaces for weeds.

- **Timing is everything:** Grass seeds germinate in cool weather; weed germinate in warm weather. Overseed lawns in the fall (cool) so the grass seed is established before weeds arrive looking for a bare, sunny spot in the spring (warm). Overseeding established lawns keeps the lawn grass population young and vigorous.



© Dominick Santise of Studio 1482

- **Choose well:** The best grass is a mix of Tall Turf Type Fescues, which are drought and disease resistant. Add to that about 20% Bluegrass, which knits it all together.
- **Compost helps:** Sandy (fast draining) or clay (slow draining) soils are typically low in organic matter. Add compost.

Compost + clover + grass clippings + leaf mulch = all the food a PRFCT lawn needs.

- **Aerate:** All lawns benefit from occasional aeration to help incorporate oxygen and organic matter into the soil. For high traffic or post construction compaction, aeration should be done often throughout the growing season. Use a spading fork rather than a core aerating machine during summer, as it opens space for air without making space for weed seeds.

- **Water Smart:** Lawns are not native plants. They do need watering in hot, dry weather to reduce stress and stay healthy. Water very seldom: grass and soil surface should dry out well between waterings to avoid fungus problems and reduce weed seed germination. Water very deep to encourage deep roots that take up nutrients and support strong, disease-resistant leaf blades.

If, for some reason (we hope not) your client insists on a more “conventional” lawn (cut short, no clover, no clippings) try to talk them out of it. If they persist, explain that you will need to resort to inputs (organic fertilizers, compost tea) to offset the stress, and it will be more expensive. This is when soil tests are important; to know what, and how much, input is needed.

12. Plant a Pollinator Patch: Size doesn't matter.

What's an easy and inexpensive way to reduce the amount of lawn? Native grasses and wildflowers.

First, decide if you want a:

meadow: mostly grasses/some wildflowers; slower to establish, easy to maintain, or a

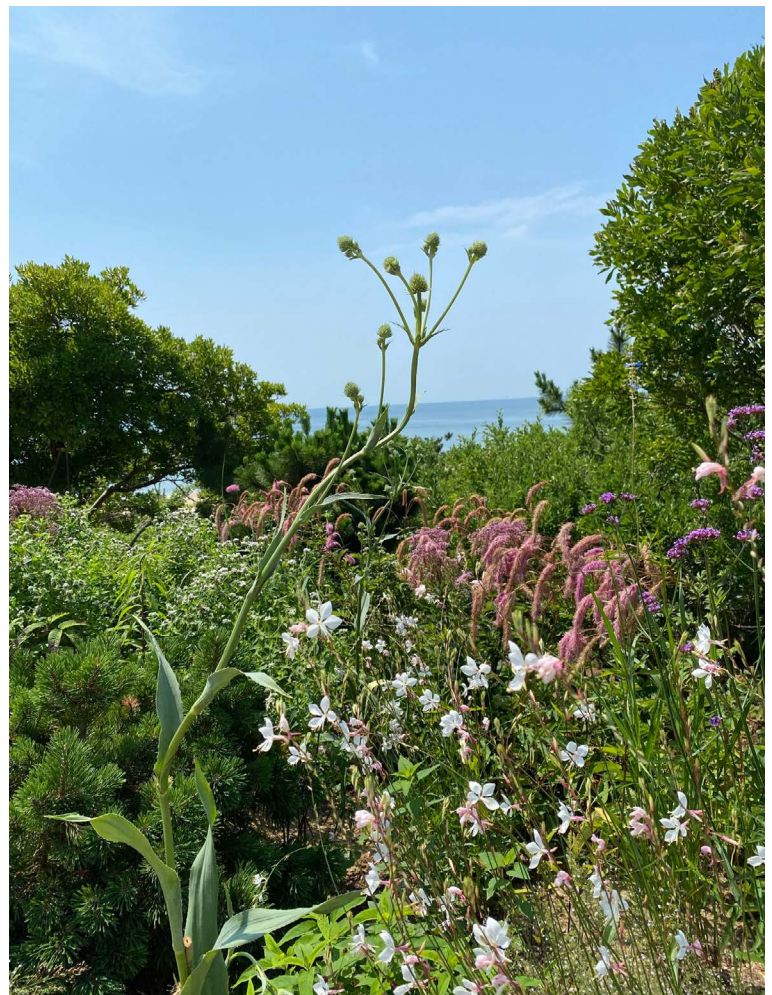
wildflower/pollinator garden: mostly wildflowers/a few grasses, faster to establish, more maintenance.

Start small. Remove existing sod and plant into the soil with as little disturbance as possible. You can use seed (least expensive), *plugs* (the best for filling in spaces fast with minimal cost), *potted plants* (most expensive but the best for immediate effect), or a combination of two or all three. Annual seeds are great for filling in the spaces between plugs or plants to suppress weeds while the plants grow in.

Go to www.234birds.org/you/habitat-gardens-landscapes in the pollinator plant section for lots of good information.

Also www.lawntowildflowers.org and www.pollinator-pathway.org

Meadows do best in poor soil, watered in when planted, and then left alone, which helps to keep weeds from moving in (weeds love fertility and water). Choose plant types carefully based on soil type: sandy/dry, clay/wet, and sun/shade.



Wildflower (pollinator) gardens are fine with richer soil, and may want some watering now and then to keep them blooming. Don't spoil them with too much watering or fertilizing, or the weeds will take advantage.

Both grasses and flowers will attract pollinators and birds. Get to know what each plant attracts and share it with your clients. During the winter the garden will still provide seeds for birds, shelter for insects, and visual interest for us, so don't cut anything back until the late spring when new growth starts to appear. Cut high, 8-12", (use a weed wacker) to protect plant root crowns and any remaining insects. Carefully remove the cuttings to the compost pile. Keep an eye out for exotic invasives and be sure to remove them before they go to seed.

13. Let Go, Have Faith, Have Fun: Designing and maintaining for independence

The hardest part for both clients and professionals when changing to Nature-Based is learning to appreciate what happens when you let go and trust the system. But you can't do that if you don't know what you are seeing. Much of what we have always thought of as "good" gardening is based on treating a landscape as something to be controlled, something familiar, like our home interiors. Since our idea of neat and tidy is not what nature does naturally, it takes a great deal of time and effort to keep an outdoor space looking like an indoor space. Nature-Based encourages us to step back and let plants be plants and nature do nurture. This means trees and shrubs can grow to their natural sizes and shapes, and leaves get to return to the soil, and caterpillars get to eat leaves and be eaten by birds. When we learn about plants and habitat we can participate in the process in a positive way. If we come to a landscape with the intent to do no harm, and we know which plants will be happy there, then it is easy and fun to make a refuge, a place that is full of health and beauty and joy.

To do all this, we need to accept a different way of looking. The Nature-Based landscape is not clipped, uniform, frozen in place. It looks like, you guessed it: Nature! It is abundant and flowing and ever-changing. Each day, month, season and year, Nature-Based landscapes are different each moment a new source of interest and delight. The Nature-Based landscape is designed so that

- trees and shrubs can grow as large as they like, in their natural shapes.
- plants fill every space, without need for blankets of mulch.
- Plantings are mixtures of many different native species.

- Plants provide year round food and shelter for wildlife.
- A source of clean water completes the habitat requirements.
- Plants can grow together as communities and support each other with no need for deadheading, staking and tying.

At first, people may see this as messy compared to the "indoor tidy" look. It isn't messy, it is complex, and totally alive. Once we start to see, and are comfortable with, all the lives that are thriving together, our perception of what is a "good" garden starts to change, and we see the complexity as beautiful.

A good way to start making successful native plantings is to go to a natural place nearby and find a spot that looks especially lovely. Take a photo, and copy that.

To add a designed touch to a wild planting, mow an edge of lawn around it or add wide grass paths to meadows.

All the while, keep practicing your powers of observation: Do you notice when plants are stressed? Can you tell the difference between a plant that is too wet or too dry, chlorotic or windburned? These are the sensitivity skills that are basic to successful Nature-Based LandCare. Any plants that are consistently stressed or insect-encrusted are probably not the right choice for the place. Why fuss with plants that are fussy? Make sure they are in the right conditions for their type and their roots are properly planted and if they still aren't happy, compost them. As you go, you will learn more about which plants will work in each of your properties. Nature-Based landscape gardening is an ongoing experiment and adventure of discovery.

Part Three: More Depth

The Business Benefits

More and more people are worried about the environment and the effect of pesticides on their health. They want to do something that actually makes a difference. Nature-Based LandCare offers them that opportunity right in their own property and more people are looking for the landscape companies that can do it. It is a quickly growing market with high demand and low supply: An excellent business opportunity. To get started, it is important to start learning, keep learning, and make a full commitment to Nature-Based so that you can tell clients that you know what to do for good results, and you do not use chemicals, at all—which means they will have to make that commitment with you, and understand that this is a process you will explore together. Your relationship with clients, and theirs with their properties, are an extra benefit of the process. Everyone becomes engaged in seeing a place come to life.

Continuing Education

The practice of Nature-Based LandCare is based on a combination of old and new principles. In order to keep getting better at your job, it is important to stay informed and excited about new ideas that are continually being developed. Getting to know the names of plants is important. Botanical Latin might seem difficult at first, but if you spend a little time each day reading about plant names and speaking about them with growers, it gets easier. The names tell you which plants are related and share the same likes and

dislikes. If you can help clients by naming the plants on their property and indicating which ones are native, you will gain their trust and respect. If you care passionately about your skills and processes, your business will grow accordingly. If you share your knowledge (this leaflet!) and enthusiasm with your staff, they will appreciate the fact that they are being protected from exposure to chemicals and pollution and they will be proud to be part of something special that is good for the environment. They will be highly motivated employees, and your business will benefit.

Educational Opportunities

Perfect Earth Project will soon provide classes for landscapers and homeowners in Nature-Based LandCare. Sign up for Prfct Earth Tips and look for events on the website www.perfectearthproject.org

There is a large library of informative lectures (some in Spanish) at www.ecolandscaping.org, there are courses for professionals available at nofa.organiclandcare.net, and njaes.rutgers.edu/organiclandcare. Check your local Cooperative Extension, garden centers and nurseries for programs in your area.

Building Trust with Clients

Building a client's trust when transitioning to a whole new approach to landscape thinking can be difficult. It is important to educate them fully in what you will be doing, and not doing, and to manage their expectations.

The following checklist of nature-based basics will

help you review the Nature-Based approach with your clients, to make sure they understand what it involves. It is a good idea to include it with your work proposal. The Client should sign and date it to ensure they have read it, and agree to the commitment.

Perfect Earth Project works to educate clients/ homeowners as well as professionals. If you need help answering your clients' questions, please ask them to refer to this leaflet, to our website, or contact us in person.

info@perfectearthproject.org.



Nature-Based Checklist/ Agreement for Clients to Review and Sign

- Every decision made regarding your landcare will be based on healing, not harming.
- A commitment to Nature-Based is a full commitment to chemical-free. (No cheating, it just isn't the same relationship.)
- Organic pesticides are not-target specific (they kill the good bugs too). It is best not to use them.
- Tick spraying is causing an extinction crisis in our firefly and bumblebee populations. *There is no proof that tick spraying reduces the incidence of tick-borne diseases. According to the health experts, the way to be safe is to spray yourself, check yourself.*

Effectiveness of Residential Acaricides to Prevent Lyme and Other Tick-borne Diseases in Humans | The Journal of Infectious Diseases | Oxford Academic

- It is ok for insects to eat your leaves; you aren't going to, so why not share? Caterpillars become moths and butterflies, and also bird food.
- Incessant pruning of trees and shrubs will be discontinued so that there will be plenty of leaves to spare and less stress on shrubs and trees.
- Nature-Based is a process, not products. Don't try to rush the system with stuff. Be patient, and the magic will happen.
- Set a goal to close the food loop on your property—maintain all biomass—everything your plants made for themselves, they get to

keep. Find a place for your compost, it is so much less expensive than sending biomass to landfills. Start thinking creatively about chips, twigs, logs and leaves.

- Set a goal to plant at least two native plants for every three.

www.234birds.org

- All invasive plants will be removed. See [Connecticut Invasive Plant List](#) for an excellent list for the Northeast.
- Invasive plant material will not be sent to the landfill to spread further. Instead it will be soaked in a vinegar solution or "cooked" in black plastic bags until safe to compost.
- Your lawn will not be artificially stimulated to green up early in the spring.
- Your lawn will be long and lush and contain clover—and even a few weeds, which can be removed by hand. There will be fewer and fewer weeds over time.
- Your grass will be mulch-mowed, and the clippings will be left in place (except agreed upon, select locations) to feed your lawn. When properly managed, they will be gone in a day.
- Leaves will be mulch-mowed and left as a light covering on lawns. The excess will go into planting beds and the compost heap.
- All soil will be covered with plants, or a bit of compost, while things are growing in. No huge spaces between plants, no bare soil, no seas of mulch, no tree volcanoes.
- Blowers (even electric) will be used on hard surfaces (patios and driveways), very

occasionally (electric only) on soil or plants.

- Watering will be wise. Not before June. Very seldom in July and August: (once or twice a week, max) and always very deep.
- Consider a phone app type clock controller.
- The annual tree and shrub programs of pruning/spraying/feeding/pruning will be discontinued. It really just feeds the vendors. Instead, hire them for judicious removal of the occasional overhanging branches and gentle guidance. Find a tree service that understands this.

In order to be very clear about what you will be doing, and what you will be charging for each visit, review the following month by month list with your client and discuss the costs. The number of visits for general care can be adjusted to meet the client's budget

January and February: 2 visits per month

- General check of grounds, fencing, etc.
- Pick up fallen twigs - add to compost or habitat piles
- Rake/sweep/blow leaves from paths, patios and driveway
- Storm response - as needed
- Snow plowing/shoveling- use low toxicity salt, and as little as possible. All salts damage plants/lawns
- Limbs or trees damaged or fallen
- Wind damage

March: 2 visits

- Rake leaves from lawn and wind blown piles
- Turn compost
- Take note of areas that don't drain well for attention later
- Check trees, shrubs, beds for winter damage. Prune broken limbs.

April: 2-4 visits

- Cut back perennials in beds, meadows. not too short!
- Compost all cuttings. Seed heads go in a separate pile.
- Weed all beds, drive, etc.
- Lighten and loosen any remaining piles of soggy leaves in perennial beds
- Turn compost
- Cover bare areas with compost
- Plantings can begin when soils are getting warmer, and not too wet.
- Late April, early May divide/move perennials and shrubs
- Irrigation system is opened and tested but NOT turned on.
- Start mowing
- Compost and overseed any bare spots in the lawn.
- Wash and set out lawn furniture

May: 1-2x per week

- Mow 1x per week
- Continue planting/transplanting
- Plant flower pots after nights are above 50 degrees
- Water and dead head pots every week
- Feed plants in pots every 2-3 weeks with seaweed extract
- Turn compost

June, July, August: one visit per week

(or more for more elaborate gardens: vegetables/flowers)

- Weekly mowing - leave clippings, minimal edging
- Check soil moisture and plant conditions...Turn on irrigation only as needed.
- Sweep/rake/gently blow paths, patios, drive and selected lawn areas
- Weed every other week or as needed. Weed lawns and beds by hand, use vinegar for drive, and for joints in walks/patios

- Turn compost

September: every week

- Continue weekly mowing, compost turning, biweekly weeding
- Mid Sept- cut short (2") aerate, add compost and overseed. Give special attention to persistent bare or weedy spots.

October: every week

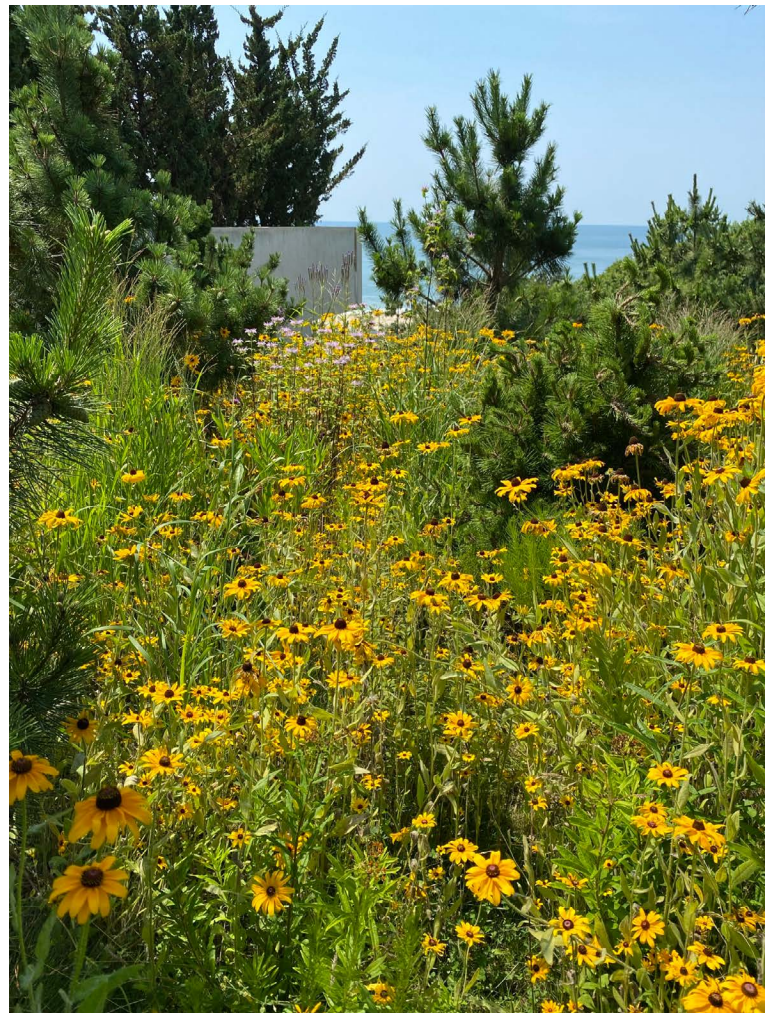
- Mowing slows down to final once or twice
- Mow leaves that fall on lawn and leave in place

November: 2-4 visits per month

- Mulch mow leaves on lawn and distribute excess in beds
- Rake and sweep leaves and layer into compost piles
- Empty flower pots and store

December: 1-2 visits

- Final leaf removal from paths and patios
- Turn compost- apply finished compost to beds, leaving space around base of plants
- Store furniture, hoses, etc.



Client Signature

Date

Client FAQ'S

What do I need to know about transitioning to Nature-Based?

Depending on how chemical-dependent your landscape currently is, there may be a transition period. Weeds might appear in weak lawn spots, but mowing high, watering wisely, and regular overseeding will eventually crowd them out. Your lawn will not be as green in the early spring as that of your chemical-based neighbors, but it will be healthier when the weather gets hot.

How do I know if a landscaper is actually providing Nature-Based services?

Ask them questions like these, based on the checklist:

- How high do they mow?
- Do they use a mulching mower and leave the clippings?
- What do they do about weeds?
- How do they manage the irrigation system?
- What about insect pests, and pruning?

If they are already working for you, or someone you know, take a closer look at their annual contract for a list of the work proposed. Are they following the practices outlined in this handbook? Are they including a long list of applications? Most states require that they list all regulated (labeled) products to be applied each season. If they are applying chemicals, they are taking a shortcut, this is not Nature-Based.

How do I know if my landscaper is doing a good job?

Most clients can only judge the work their landscapers are doing by criteria they understand: house cleaning—i.e. if their lawn resembles familiar territory, like a living room

rug: most people think a good job is a lawn cut perfectly flat and vacuumed clean; plants all cut into recognizable geometries and held within bounds; bed edges sharp;. everything smothered with a uniform layer of mulch; everything looks the same every time they visit.

Nature-Based requires a new set of criteria: leaves don't look out of place here and there on the ground; plants are not chopped; there is a casual beauty that changes with the days and seasons.

How do you know if it is good landscaping or benign neglect? Simple: Talk to your landscaper. Do they have a plan for transitioning your place from conventional to Nature-Based? Do they have a logical reason, based on natural cycles, for what they are doing? The right answers will be evident. They will be informed and committed to the goals you have set.

Who should I work with to transition to Nature-Based?

If you already are working with someone who is not Nature-Based (yet), we would prefer that, instead of replacing them, you encourage them to join you in a commitment to learning and practicing Nature-Based.

There are far too few landscapers who are doing Nature-Based and those who are can be more expensive because they are in such demand. Help us grow the community of Nature-Based LandCare companies by asking, and helping, your landscaper to learn the basics and become a land steward. Our Earth is in their hands. That is why we wrote this handbook. Please share what you have learned, and join us in this mission.

Additional Resources:

www.234birds.org Access to Tools and Getting started

www.pollinator-pathway.org great plant lists

Audubon Native Plant Database

www.audubon.org/native-plants

Cooperative Extension nifa.usda.gov/extension
nifa.usda.gov/land-grant-colleges-and-universities-partner-website-directory

Ecological Landscape Alliance

www.ecolandscaping.org

If you're interested in learning more, please visit:

www.perfectearthproject.org

And while there, sign up for our occasional tips and newsletters

**PRFCT
EARTH
PRJCT**



 @PerfectEarthProject

 @prfctearth

 @perfectearthproject

Consider a donation to Perfect Earth to help
spread the word: perfectearthproject.org/donate

Perfect Earth Project is a registered 501 (c)(3) nonprofit
(Tax ID: 32-0236349). All donations are tax deductible.

962 Springs Fireplace Road
East Hampton, New York, 11937
631-907-9040