A Guide to NativeScaped Yards and HOA Sanction:

Native habitat restoration in residential and community spaces in regard to HOA and city ordinance issues with researched solutions

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Nationwide, millions of people live in communities governed by HOAs and/or city property maintenance ordinances, which can offer both positive and negative impacts for members. Such communities often enforce conventional landscape aesthetics, primarily consisting of turf grass and other imported plants that lack ecosystem benefits and require added water and chemical treatments. They are designed to create a cohesive look and positive experience for community members by ensuring a certain standard of appearance and assumed safety. It is possible to achieve this while also updating ordinances to meet the needs of our current environmental issues and be an active part of the solution.

Common lawn designs have begun to be recognized as 'ecological dead zones,' a term coined by Douglas Tallamy, an Entomologist, Behavioral Ecologist, and Professor at the University of Delaware. Lawns consume a considerable amount of land. With this awareness, there is a large movement supporting the updating of HOA and city guidelines and policies to improve biodiversity and ecosystem health. Modern research supports this update in the way a 'cared-for' lawn now appears. It is quite different from years past. Today, more of society views a cared-for lawn as one that works to support biodiversity and the wellness of our environment for future generations. The past lawn appearance now reflects an outdated concept that many people are beginning to find neglectful of the modern needs of today.

The green yards of short turf grass and ornamentals that are a common image are in reality an outdated concept dating back to the 1700s in England and France. Centuries ago, it was a sign of privilege to have a perfectly manicured lawn, reserved for royalty and the upper class. The amount of maintenance required by these new lawns kept them strictly in the realm of the wealthy, signifying a certain level of wealth as the lawn was not needed to grow food and the owner had the funds for servants to upkeep the grounds. This concept slowly made its way to America, and after the Industrial Revolution, many people joined this movement to prove their status level as well. It became easily within grasp once the invention of the lawn mower appeared on the market in the early 1900s.
The issue with this 1700s-style lawn, or "launde," is that it is terribly outdated for modern needs. In modern times, a yard filled with nourishing food and providing a safe haven for our at-risk species shows forward-thinking vision, understanding what is needed now. It's about not living in the past but instead living in the moment and looking toward the future.

A movement is happening, and updated environmentally conscious communities and HOAs are now receiving nationwide recognition for their efforts toward creating a more sustainable cosmetic standard and their involvement in ecological solutions. With minor changes, ordinances can become guidelines for improvement and involvement that most community members are eager and ready to explore. The following is a compilation of data, research, and support for transitioning from the lawns of yesterday to the lawns of today for tomorrow.

The time is now. We are in a time of rapid loss for ecosystems and biodiversity. Research from the Living Planet Report shows we are facing a wildlife extinction crisis globally:

- The Living Planet Report 2022 drew on wildlife monitoring of more than 32,000 species populations around the world including mammals, fish, birds, and amphibians. It found that population sizes for those monitored species declined by an average of 69% since 1970. Freshwater populations are being hit the hardest, with an 83% loss. They are calling it “Our broken relationship with nature.”

- We’ve lost 3 billion birds from the North American bird population since 1970.

- Bees are disappearing, with the once-common rusty-patched bumble bee now listed as endangered.

- Monarch butterfly numbers have plummeted by as much as 90% in the east and by over 99% in the west.

- Wetlands, too, have suffered a 50% decline in the U.S., according to the World Animal Foundation, with Europe having lost 60-70% of its wetlands.

- In the United States one-third of our wildlife are at increased risk of extinction in the very near future. Globally, 35% of forests have been lost in the past 300 years. Of those that have survived, 82% have been compromised by human activity. More than half of the world's forests are now found in just five countries — Brazil, Canada, China, Russia and the U.S. (Lucchesi. E, 2022)

The loss of wildlife is not just an issue for wildlife. It is an issue for us all. The ecosystem is a fragile web which we all need to survive. One thread breaks, and the entire system becomes less stable.

What Can We Do?

With numbers this large and an issue that seems beyond our control, it is incredible that there is actually a lot that we can do. It can begin in our yards. We have the space and land coverage to make a difference if we change the way we care for our lawns and community spaces. Healthy, sustainable, wildlife-friendly communities provide the four basic elements that wildlife and nature need to survive: food, water, cover, and places to raise young. When habitat is created with these four elements and managed with sustainable practices, we can create biodiverse ecosystems in which both humans and wildlife thrive. (Guide to passing. 2021)

It may seem small, but our lawns and shared community spaces make up a significant portion of US land. As shared by Francie Diep in Science Line, "Homes, golf courses, and parks may cover more acres with turf grass than U.S. farmers devote to corn, wheat, and fruit trees — combined." Diep also shared a study published in Environmental Management in 2005, researchers estimated that there are 40 million acres of turf grass in the U.S., covering 1.9% of the land (2011). This isn't how much land is owned by these groups; it's simply how much land is dedicated to turf grass. To illustrate the vastness of this area, consider that all of our national parks combined only cover 3.4% of US land. This urbanization has fragmented ecologically supportive land and replaced it with lawns and exotic ornamental plants that serve little to no purpose to the local ecosystem, leading to a plummet in biodiversity and the disappearance of local flora and fauna.

There is a large movement toward turning old manicured lawns into native habitat restoration spaces. Little by little, in recent years across the country, homeowners, HOAs, and city guidelines have begun to adapt to a more modern, sustainable vision. Issues within old belief systems are being challenged, and data is indisputable for updating policies. Sometimes, it is enlightened members of HOA boards who make the changes. Sometimes it's members of the community working to update rules. Oftentimes, it is both working together. As National Geographic stated, "Solutions to overarching problems such as climate change require legislation and new policies, but individuals themselves can make a difference for insects in their backyards, neighborhoods, and communities." Movements such as 'We are the Ark', 'Homegrown National Park', 'The Community Wildlife Habitat Program' by the National Wildlife Federation, and multiple programs from state to state are opening eyes and changing minds about how we can actually alter the trajectory of climate change and the state of our environment in our own backyards and habitats.

Typical Current HOA Ordinances and Ways To Update and Improve

Below are some typical HOA and city ordinances alongside research and suggestions for modernizing them to meet present and future needs.

1) Plant Palette - It's quite common for HOA landscape policies to include an approved plant palette. This list would typically encompass the plants that residents are allowed to install themselves or via a landscape professional. This policy is intended to keep things looking consistent and cohesive within the community. A common plant included is turf grass and other grasses intended for a mowed lawn. Also often included in common plant palettes are exotic ornamentals. Unfortunately, imported ornamental plants contribute little to a thriving ecosystem and some have even become invasive. Their historical usage stemmed from being a status symbol of bygone days. Wealthy individuals who could afford to travel the world and collect plants showcased a certain level of status. These rare plants were a prized collection. However, the situation has reversed now; they are easily accessible plants found in every garden center, hardware store, and nursery while plants native to the region are more difficult to find commercially.

Ornamentals exclusively on a plant palette is an outdated concept no longer meeting the needs of now. Undeniable data shows that the most beneficial plants to include in a landscape, and thus on a plant palette, are the native plants of that particular region. An updated plant palette for today's landscape needs can provide the added benefit of avoiding invasive species and creating a list of plants that would be most beneficial for the local ecosystem, serving as an easy reference for community members.
Fortunately, the news of increased interest in native plants is spreading rapidly, with growing demand prompting niche garden centers to begin carrying native collections, demonstrating intention and awareness. With overwhelming research suggesting that native plantings are the way forward, a wealth of information is now available regarding which plants match your region and can be added to native restoration plant palettes.

A few trusted resources regarding this:

- The National Wildlife Federation offers a Native Plant Finder
  https://nativeplantfinder.nwf.org/Plants

- Pollinator.org offers a comprehensive guide to native plants and regional planting tips
  https://www.pollinator.org/guides

- Local chapters of wildones.org offer wonderful regional resources for planting natives.

- There are now databases gathering names and locations of garden centers offering native plants. One of these resource pages is through the Homegrown National Park page. A Native Plant Resource Directory by state can be found on their website under the resources link https://homegrownnationalpark.org/directory2/.

So why is there so much attention being paid to native plants? Simple, their importance is without question.
Stated perfectly by Audubon, "Native plants are those that occur naturally in a region in which they evolved. They are the ecological basis upon which life depends, including birds and people. Without them and the insects that co-evolved with them, local birds cannot survive."
For example, research by the entomologist Doug Tallamy has shown that native oak trees support over 500 species of caterpillars whereas ginkgos, a commonly planted landscape tree from Asia, host only 5 species of caterpillars. It takes over 6,000 caterpillars to raise one brood of chickadees, who are ecosystem engineers, so the essential presence of the oak is obvious. Unfortunately, most of the landscaping plants available in nurseries are alien species from other countries. These exotic plants not only sever the food web, but many have become invasive pests, outcompeting native species and degrading habitat in remaining natural areas (Why Native Plants Matter).

Transitioning neighborhoods and public areas to include more native plants offers numerous benefits for us all. Some key advantages are noted by Kelly LaVaute in an article for the National Wildlife Federation,

- Biodiversity conservation: Native plants have evolved and adapted to their local ecosystems over centuries, and native wildlife have evolved and adapted to them. They provide essential habitat and food sources for birds, insects, and other animals that introduced species simply cannot. The colorful array of butterflies and moths, including the iconic monarch, the swallowtails, tortoiseshells, and beautiful blues, are all dependent on very specific native plant species. Native plants provide nectar for pollinators including hummingbirds, native bees, butterflies, moths, and bats. They provide protective shelter for many mammals. The native nuts, seeds, and fruits produced by these plants offer essential foods for all forms of wildlife. By incorporating more native plants, communities can help preserve and support local biodiversity and contribute to a healthier ecosystem.

- Water conservation: Native and naturalized plants are typically well-suited to the local climate and require less water once established. They help improve soil structure and water infiltration with their specialized root systems, reducing the need for irrigation. By choosing native plants, communities can reduce water consumption and support sustainable water management which is highly desirable considering the staggering data of water usage for lawns. According to the United States Environmental Protection Agency, residential outdoor water use across the United States accounts for nearly 8 billion gallons of water each day, mainly for landscape irrigation. The average U.S. household uses more water outdoors than for showering and washing clothes combined.

- Reduced pesticide use: Native and naturalized plants have evolved innate defenses against pests and diseases, rendering them more resistant and resilient. This diminishes the perceived need for chemical pesticides and

fertilizers, thereby fostering a healthier community for everyone with reduced toxin levels. Lawns and the ubiquitous bark-mulched landscapes are notorious for requiring profuse amounts of artificial fertilizers and synthetic chemical pesticides and herbicides. The traditional suburban lawn, on average, has 10x more chemical pesticides per acre than farmland. By choosing native plants for your landscaping, you are not only helping wildlife, but you are creating a healthier place for yourself, your family, and your community.

- Erosion control and soil health: Native and naturalized plants' extensive root systems help stabilize the soil, preventing erosion and runoff. They also enhance soil health by improving its structure and nutrient cycling. This supports healthier soil, healthier plants and healthier ecosystems.

- Aesthetics and sense of place: Native plants enhance the unique beauty and character of a region. By incorporating them into a neighborhood landscape, they can create a distinct sense of place and enhance the overall aesthetic and cultural identity of the area, truly allowing the uniqueness to shine and making it feel like 'home'. Many native plants offer beautiful showy flowers, produce abundant colorful fruits and seeds, and brilliant seasonal changes in colors from the pale, thin greens of early spring, to the vibrant yellows and reds of autumn.

- Lower maintenance requirements: Once established, native plants generally require very little maintenance compared to non-native species including turf grass. They are well adapted to local conditions and can withstand local climate fluctuations. As explained above, this reduces the need for extensive watering, pruning, and fertilization while still offering lush and vital landscape. In addition, they offer reduced noise and carbon pollution from lawn mower exhaust.

- Education and community engagement: Shifting towards a greater use of native plants presents an opportunity for community engagement and education. Community members can coordinate workshops, plant sales, seed exchanges, or nature walks to raise awareness about the significance of native plants, conservation, and environmental stewardship. Such initiatives can cultivate a sense of pride, purpose, and ownership among residents, fostering a stronger and more interconnected community.

- Less lawn care for more benefit: Turf grass, standing as the key plant in a community, leaves much to be desired for the local ecosystem and overall community health. One common myth leading to the belief that turf grass as a main plant on a palette is beneficial is that it is a high-level carbon sink. This is indeed a myth. Princeton University published an article written by Jiahn Son highlighting the link between lawn maintenance and climate change. In this article, Son explains that over 40 million acres of land in America are covered by lawn or, more specifically, turf grass. While grass can act as a carbon sink, meaning an area that soaks up carbon dioxide from the atmosphere, this is outweighed by the heavy carbon output associated with lawn maintenance. Lawns do not alleviate climate change and may even contribute to it. Son highlights the main culprits being lawn equipment, especially gas-powered leaf blowers, lawn mowers, and synthetic fertilizers. A 2014 study examined the VOC (combination of harmful gases) emissions of two-stroke scooters (the same engine as in common lawn equipment) and found that emission levels were 124 times higher from an idling scooter than from a car or truck. Some lawn equipment uses four-stroke engines, and a four-stroke lawnmower operating for 1 hour is equal to a vehicle traveling 500 miles. Lawn equipment emits much more carbon than people would commonly think.

- Solutions for this include less turf grass, therefore less mowing. Leave the leaves for soil health and biodiversity. Plant trees for carbon sequestration, and shrubs, medium-height plants, and ground cover in a beautiful garden scape that doesn't need to be mowed at all. There are other landscaping solutions such as "no mow lawns" using specific plant palettes that do not get over a certain height therefore do not need mowing.

- On top of lawn maintenance, the use of synthetic fertilizers was highlighted in this article. According to a study done by the EPA, 40-60% of the nitrogen from synthetic fertilizers ends up in surface and groundwater. This runoff has the potential to further pollute rivers and other waterways and turn them into dead zones due to toxic algae blooms created by this excess nitrogen. Some solutions offered are planting natives and allowing naturalized plants in the region to grow, which do not need fertilizers. If the need still exists for fertilizers, opt for organic fertilizers which have less of an impact on waterway health.

As we've explored, it's questionable if an old-style aesthetic is worth the environmental cost of today and tomorrow. Instead of mowed turf, we can transform our lawns into gardens of biodiversity and sustainability. Cornell University's College of Agriculture & Life Sciences offers a helpful program that instructs homeowners on how to

transform their lawns, called *Lawn Care: The Easiest Steps to an Attractive Environmental Asset*. The general idea is to limit the amount of grass and the amount of maintenance associated with it.

Let's continue with additional common HOA and city ordinances alongside research and suggestions for modernizing them. PLANT PALETTE was a big number 1, but the rest hold great importance and potential impact as well.

2) CUT LOW AND REMOVE ALL GRASS CLIPPINGS - While many people believe that lowering the blades and cutting grass shorter will decrease the frequency with which you have to mow, it's actually damaging to the lawn and requires more care. When cut too short, grass roots can be overexposed to the hot sun causing the lawn to turn brown. This increases the need for fertilizer and irrigation. Both of which come with a cost.
Regarding removing grass clippings, the widespread, but erroneous, belief that grass clippings left on the lawn creates thatch was debunked in the late 1960s by a study at the University of Rhode Island. They found that thatch is primarily composed of stolons, stems, roots, and rhizomes. Grass clippings, on the other hand, are mostly water and will break down quickly, returning nutrients to the lawn. These returned nutrients can lower the need for supplemental fertilizers.

3) FREQUENT LAWN WATERING - As previously stated, homes, golf courses and parks may grow more acres of turf grass than U.S. farmers devote to corn, wheat and fruit trees combined. In a study published in Environmental Management in 2005, researchers estimated there are 40 million acres of turf grass in the U.S., covering 1.9% of the land. If all that is kept well watered, it could use 60 million acre-feet of water a year (An acre-foot is the amount of water needed to cover an acre with one foot of water). Turf grass might be the U.S.'s largest irrigated "crop," wrote the research team in their paper. Homeowners have a "definitely significant" role in the nation's water budget, says Cristina Milesi, an ecosystem modeling researcher now with NASA who led the 2005 Environmental Management study. "Each family may have only a small lawn," she explains, "but once you add them all up they have a big impact." The fact that we waste such a valuable resource such as fresh water, which is rapidly disappearing, on unnecessary lawns is of concern. Especially since this can easily be discontinued with a more updated plant palette. Turfgrass needs watering; native grasses and plants as well as naturalized plant species once established need almost zero additional water to thrive. It's that simple; save the incredibly valuable resource of water by planting or allowing native and naturalized plants to grow in your yard instead of turf grass.

4) GARDENING RESTRICTIONS - This ordinance restricts the type of garden a homeowner can have. A few herbs in a planter or a raised bed vegetable garden is sometimes allowed, but there are generally restrictions against having a large backyard garden. Aesthetics tends to be the reasoning behind this one. Gardens, though wonderful in their ability to bear produce, aren't considered attractive by some unless impeccably maintained. Even if highly maintained, there is an off-season where a whole plot of land has nothing growing, which to some can be an eyesore.
There's also the thought that gardens can attract wildlife; which they can. We do also have to ask ourselves, 'What is our disdain for wildlife actually about and how do we address that? Where do we expect them to go? What happens when they are all gone?'
The tick eating and timid opossum, highly intelligent and playful crows and raccoons, problem solving squirrels, gentle rabbits and more all simply need a safe haven and food since they are losing habitat at an alarming rate and have nowhere else to go. People expect them to go to the "country" which I'm honestly not sure where that is. An imaginary place existing of 100s of uninhabited acres for wild ones to run free can't be the expectation for habitat anymore. It's no longer there. What I have personally found after living in coexistence with wildlife for over 30 years is that the more balance, the less you see the wild ones. They do not want to be seen unless they have to be. If they are given space and food sources, they will stay tucked away where they feel safe in the shared and balanced habitat. The type of habitat that all of our livelihood depends upon.
One option for managed home gardens is raised beds which do look aesthetically pleasing and can offer some buffer to wildlife. Another is in ground gardens with attractive borders and ground cover over the winter. There are plenty of options allowing home owners the empowerment of some self sufficiency while maintaining a certain overall aesthetic.
Another trend that is quite popular is community gardens. With some homeowners wanting the ability to grow fruits or vegetables, some HOAs are now designating specific areas where people can come and grow a garden as a community.

It's become apparent that healthy, truly organic produce is getting more difficult to obtain and families are becoming more interested in having the option of growing their own food. Not just for the nutritive aspect, but also for the feeling of self sufficiency and empowerment. 2020 brought new insights and desires regarding food sovereignty and it's time to meet those needs of community members.

5) HERBICIDE AND PESTICIDE USE [WEED CONTROL] - It has become quite common for HOA requirements to include managing 'weeds' in a landscape, and a common control method for these plants is herbicides. Alarmingly, some even spray these poisons on common grounds without notice to the community members. Many homeowners feel forced to spray toxins on their lawns out of fear of fines and other penalties. All the while, these toxins are certainly not without consequence, and the need for their use is extremely low. Each year, U.S. homeowners apply an estimated 80 million pounds of synthetic pesticides to their lawns. This poses considerable environmental and health dangers, especially for children and pets. The international scientific community recently confirmed long standing suspicion that herbicides, specifically Roundup, is not as 'safe' as many have been led to believe.
In 2015, the World Health Organization's International Agency for Research on Cancer (IARC) classified glyphosate (an active ingredient in common herbicides such as Roundup) as "probably carcinogenic to humans" after reviewing years of published and peer-reviewed scientific studies. The team of international scientists found there was a particular association between glyphosate and non-Hodgkins lymphoma. In addition to this, there's a growing body of evidence on other health impacts associated with exposure to Roundup, such as endocrine disruption as well as digestive, autoimmune, and neurological issues. All of this shows reason for concern with common herbicide and pesticide use on our lawns and common spaces. Unfortunately, the pesticide industry has convinced consumers that pesticides are safe, necessary for attractive and healthy lawns, easy and cheap to use, and harmless to people and pets. This leads people to think nothing of buying big bags of pesticides to use on their lawns and gardens or hiring others to apply pesticides. These large bags of lawn chemicals (typically "weed and feed") are sold not just in home improvement stores and local hardware stores, but even in stores that sell groceries, which further sends a message that they are safe and harmless.
The issue is, herbicides and pesticides are not safe and harmless. They, by nature, are designed to kill living organisms. Of the nearly 80 million pounds of herbicides used on American lawns, one of the most popular is 2,4-D (2,4-dichlorophenoxyacetic acid). 2,4-D is a common part of "weed and feed" products, but it is also known as one of the two herbicides used in Agent Orange (a banned herbicide used by the US military in the 1960s that showed to have over 14 serious diseases associated with its exposure). It is a carcinogen linked to certain cancers, especially non-Hodgkin's lymphoma and soft tissue sarcomas. It disrupts hormone, thyroid, immune system, and reproductive functions, and causes neurotoxicity (Silgalis, M).

THE IMPACT OF PESTICIDES AND HERBICIDES

Impressive data was collected by beyondpesticides.org to show the impact of pesticides and herbicides in some key areas:

COMMUNITIES & HOMES

- 78 million households in the U.S. use home and garden pesticides.
- Herbicides account for the highest usage, in comparison to other lawn treatments, in the home and garden sector with over 80 million pounds applied on lawns and gardens per year.
- Suburban lawns and gardens receive more pesticide applications per acre (3.2 - 9.8 lbs) than agriculture (2.7 lbs per acre on average).
- Pesticide sales by the chemical industry average $9.3 billion. This is a driving force for marketing ploys and misinformation. Included in the most commonly used pesticides per pounds per year are: 2,4-D (8-11 million), Glyphosate (5-8 million), MCPP (Mecoprop) (4-6 million), Pendimethalin (3-6 million), Dicamba (2-4 million).

- A 2004 national survey reveals that 5 million homeowners use only organic lawn practices and products and 35 million people use both toxic and non-toxic materials.

- Of 30 commonly used lawn pesticides 13 are probable or possible carcinogens, 13 are linked with birth defects, 21 with reproductive effects, 15 with neurotoxicity, 26 with liver or kidney damage, 27 are sensitizers and/or irritants, and 11 have the potential to disrupt the endocrine (hormonal) system.

CHILDREN

- Pregnant women, infants and children, the aged and the chronically ill are at the greatest risk from pesticide exposure and chemically induced immune-suppression, which can increase susceptibility to cancer.

- Scientific studies find pesticide residues such as the weedkiller 2,4-D and the insecticide carbaryl inside homes, due to drift and track-in, where they contaminate air, dust, surfaces and carpets and expose children at levels ten times higher than pre-application levels. This is of great concern because children take in more pesticides relative to body weight than adults and have developing organ systems that make them more vulnerable and less able to detoxify toxins.

- The National Academy of Sciences estimates 50% of lifetime pesticide exposure occurs during the first 5 years of life.

- A study published in the Journal of the National Cancer Institute finds home and garden pesticide use can increase the risk of childhood leukemia by almost seven times.

- Exposure to home and garden pesticides can increase a child's likelihood of developing asthma.

- Children ages 6-11 have higher levels of lawn chemicals in their blood than all other age categories. Biomonitoring studies find that pesticides pass from mother to child through umbilical cord blood and breast milk.

WILDLIFE, PETS & PESTICIDES

- Studies find that dogs exposed to herbicide-treated lawns and gardens can double their chance of developing canine lymphoma and may increase the risk of bladder cancer in certain breeds by four to seven times.

- Of 30 commonly used lawn pesticides: 16 are toxic to birds, 24 are toxic to fish and aquatic organisms, and 11 are deadly to bees.

- Pesticides can be toxic to wildlife and cause food source contamination, behavioral abnormalities that interfere with survival, and death.

- Lawn and garden pesticides are deadly to non-target species and can harm beneficial insects and soil microorganisms essential to a naturally healthy lawn.

PESTICIDES IN THE WATER

- Of 30 commonly used lawn pesticides, 17 are detected in groundwater.

- Runoff has resulted in a widespread presence of pesticides in streams and groundwater.

- 2,4-D, found in weed and feed and other lawn products and above issues associated with this were mentioned above, is the herbicide most frequently detected in streams and shallow ground water from urban lawns. This water is the drinking water for wildlife and will eventually make its way back to our water glasses.

- Of the 50 chemicals on EPA's list of unregulated drinking water contaminants, several are lawn chemicals including herbicides diazinon, diuron, naphthalene, and various triazines such as atrazine.

- Runoff from synthetic chemical fertilizers pollutes streams and lakes and causes algae blooms (overgrowth of microscopic algae or algae-like bacteria in fresh, salt, or brackish waters), depleted oxygen and damage to aquatic life.

THE REGISTRATION SYSTEM & PESTICIDE REGULATION

- The health data assessed by the EPA for the registration of pesticides comes from the manufacturer of the pesticide. EPA is not obligated under the Federal Insecticide Fungicide and Rodenticide Act (FIFRA) to review peer-reviewed scientific literature.

- The U.S. GAO (Government Accountability Office) has told Congress on several occasions that the public is misled on pesticide safety by statements characterizing pesticides as "safe" or "harmless."

- EPA does not evaluate the health and environmental effects of actual pesticide formulations sold on the shelf. Data submitted to the EPA also does not account for low-dose effects, synergistic effects with inerts or combined exposure to more than one pesticide at a time.

"INERT" INGREDIENTS

- Pesticide products are made of an active ingredient and several inert, or other, ingredients. Inert ingredients are neither chemically, biologically nor toxicologically inert. Inerts are not disclosed to the public due to their status as "trade secrets".

- Active ingredients usually comprise only 5% of the actual product; the other ingredients make up the majority of a given pesticide product or formulation.

- Inert ingredients can be more toxic to humans than the active ingredient. Ethylene chloride, a nerve poison, is an example of an inert ingredient linked with damage to the heart, eyes, liver, and adrenal glands.

- 800 out of 1200 inerts are classified as "of unknown toxicity," 57 as highly toxic due to known carcinogenicity, adverse reproductive effects, birth defects, neurotoxicity and/or other chronic effects, and 64 as potentially toxic.

- 394 chemicals used as inert ingredients are listed as active ingredients in other pesticide products, and more than 200 inerts are considered hazardous pollutants and/or hazardous waste under federal environmental statutes.

It is a threat to the health of the individual applying this chemical as well as their family and pets, all to kill a few plants considered unwanted. What we must ask ourselves is, "What is best for myself, family, pets, and the environment?" If the answer is not spraying known toxins and carcinogens on your lawn and bringing them into your home, then there are other options out there.

First, it's important to restructure our understanding of what makes a healthy and cared for yard. A typical 'cared for' yard is filled with turf grass, ornamentals and sprayed toxins which actually creates a space unhealthy for pollinators, children, wildlife, and even the soil. Whereas, commonly undesirable 'weeds' are plants that have been given a negative reputation with no true reasoning. They are typically anything that isn't turf grass, ornamental, or common food-bearing crops. These plants called weeds are oftentimes essential to a thriving ecosystem as they are actually native plants eager to tend to the land if allowed the space to do so. As the awareness of the importance of native plants in a landscape rises, it can be common for people to be overwhelmed by the idea of planting a "native plant garden" when in fact, if allowed the space, the native plants will plant themselves and thrive.

Another type of plant often called a 'weed' is a naturalized plant. It is neither native nor invasive but was introduced to this land and found a balance, offering benefits to the ecosystem, much like the honeybee, which was brought to the Americas in the early 1600s. For example, dandelions are now an important food for many bird species, rabbits, chipmunks, and more. Dandelions' deep taproots pull minerals from deeper layers and bring them up to the often depleted topsoil, creating a healthier yard. Dandelion greens are found in fine dining establishments and are

considered a delicacy on elevated menus. However, herbicide companies have used marketing techniques to make this lovely plant the poster child for weed management. People are convinced to spray poison in their own yard just to rid it of this helpful yellow-flowered beauty. Chickweed, plantain, ground ivy, cleavers, henbit and many other naturalized plants bring benefit and beauty to a yard needing zero chemical support or additional water to remain green and lush.

In the case that chemicals are necessary, there are cleaner options readily available. The most widely accepted choice would be organic or "least toxic" treatments. The Organic Materials Review Institute (OMRI) label helps those seeking safer alternatives at home find them more easily. OMRI is an independent agency that reviews products against the federal organic standards, so consumers know that OMRI certification means a product compatible with the National Organic Standards and is a safer alternative for their family, pets, and natural areas.

MOVING FORWARD WITH SOLUTIONS

Many HOAs and communities are being brought to the forefront as examples in leading the way toward living in a sustainable way while still maintaining desired appearance. Some award winning, master planned communities are offering a window into how this can look in real life.
An example of one of these communities is Broadlands community in Virginia. For inspiration, visit their HOA site and see how this work has been put into action.
https://www.broadlandshoa.org/about-broadlands/

Case studies are being conducted with communities across the country spearheading programs, including property maintenance practices that create healthy, sustainable, wildlife-friendly communities. These projects have developed models for community-led wildlife conservation efforts at the local level. Each serves as a case study that can be adopted by any municipality across the nation.

Some examples include:

In April 2012, Green Bay, Wisconsin's city council extensively revised its ordinance dealing with weeds and the maintenance of vegetation to recognize the importance of native plants and natural landscaping. It was a very simple shift that made a big difference. The ordinance promotes natural landscaping and the use of native plants while maintaining the expectation to limit uncontrolled plant growth on private and city-managed property. The ordinance provides clear definitions of what constitutes a garden and planned natural landscapes. Unmanaged plant growth is defined as "any grass, hay, weeds, brush, or other offensive vegetation which has grown to a height of over 9", but the ordinance exempts gardens, planned natural landscaping, and plants in environmentally sensitive areas. This shows how important a well-defined plant palette is in helping others create ecosystem-supportive landscapes.

Austin, TX, has a property maintenance ordinance outlining the requirements for keeping properties in a sanitary condition. Their ordinance states that safe, sanitary properties may not contain weeds or grasses above 12 inches, garbage, rubbish, and other unsanitary items. However, the ordinance does allow properties to have native and adapted (naturalized) vegetation over 12 inches if they are part of a local or national habitat or gardening program such as National Wildlife Federation Certified Wildlife Habitat, Texas Wildscapes Program, and more.

In 2017, the town of Evanston, IL, updated its ordinance to remove milkweed from the list of noxious plants. The monarch butterfly relies exclusively on milkweed as its host plant. Milkweed can grow two to six feet tall depending on the species, and a traditional ordinance would often consider a milkweed garden a public nuisance and required it be cut down. We now know that the presence of milkweed in home gardens and public spaces will support monarch butterfly and pollinator populations, while also strengthening ecosystem function. Changing outdated plant lists is essential to ecosystem health.

If you and your community are ready to update policies to meet forward-thinking needs for now and the future, the National Wildlife Federation has composed a valuable guide for mayors, heads of local and tribal governments, municipal staff, homeowners associations, and others who want to promote the expansion of wildlife-friendly habitats in their communities. It provides case studies of cities that revised their property maintenance ordinances to incentivize homeowners and other landowners to transform their land into wildlife habitats. This guide also provides model ordinances and policies that can be adopted by any municipality across the country relatively easily.

The Community Wildlife Habitat™ program partners with cities, towns, counties, neighborhood associations, and other communities across the country to create healthier, sustainable, and more wildlife-friendly communities. This program provides community leaders with a program framework to restore wildlife habitat as well as educate and engage community members while obtaining the National Wildlife Federation's certification as a wildlife-friendly community. Here is the link for more information.
https://www.nwf.org/MayorsMonarchPledge/Resources/landscaping-guide

FOR THE INDIVIDUALS NEEDING SUPPORT IN THIS MATTER

Convincing a homeowners association (HOA) or local government to allow for wildlife friendly gardening can be challenging, but there are several strategies that can be used to showcase your yard as an intentional space and defend its presence if needed. Some basic tips for protecting wild space and native species is the look of intentionality. Simple touches such as borders around taller plants showing they are in a "bed" as well as signage stating your intention. To obtain some certifications and signage for your space is quite simple and very much worth the effort. Several certifications exist and provide information toward making your yard even more beneficial and beautiful.

Some of these certifications include but are not limited to:

- A Certified Wildlife Habitat status is awarded through the National Wildlife Federation through a small application fee of $20 and short form explaining your space. They also have an impressive amount of educational material to support your efforts as well. https://certifiedwildlifehabitat.nwf.org

- A certified Botanical Sanctuary is awarded through the United Plant Savers through an application and one time $150 fee (which can be waived for community based projects where funding may be difficult). This membership comes with many perks such as signage for your yard or area, considerations for community grants, botanical sanctuary resource guide, listing on their website, and classes. https://unitedplantsavers.org/botanical-sanctuary-network/bsn-application/

- The New Hope Audubon Society offers a Bird Friendly Habitat certification program which comes with signage as well as guidance on how to create a thriving ecosystem in your yard to the standard of a bird friendly habitat. To obtain, there is a $50 fee, an application, as well as yard visits to assist the process and assure a quality habitat. https://www.newhopeaudubon.org/bird-friendly-certification/bird-friendly-habitat-certification-request/

- Each state tends to offer its own certification such as Tennessee Smart Yards Program, Georgia Wild Yards Program, Texas Wildscapes Backyard Habitat Program, Arkansas Wild Spaces Program, and more. A simple internet search with the name of your state followed by 'wild life yard program' or 'native yard certification' will typically do the trick, leading you to a local program. Most states recognize and honor the Certified Wildlife Habitat through the National Wildlife Federation if you are unable to find a local or regional certification.

If you do not wish to join an organization, home made or purchased signage can work quite nicely when placed in obvious locations to show others your intention and purpose.

Some things to remember when planning your space:

- It's completely appropriate to have grass lawn area to play, walk, and enjoy some space. Have no guilt with this! However, the large areas that see no traffic but a lawn mower and maintenance can be much better served as safe haven for the wild ones that are quickly losing space to survive.

- Have fun with it! Creating a habitat can be fun and exciting for you and your family. Little spaces at a time create a big impact. Signage and borders well placed show the fun, intention and spirit of the movement.

- It doesn't have to be as difficult as one may think. Sometimes, it can be as simple as bordering in and leaving an area of your yard to simply grow. It's amazing how many native plants fill in when given the space. Watch what comes and then remove or plant as you see what is needed. I oftentimes see violets, wood sorrel, lyre leaf sage, fleabane, ironweed, and many native plants popping up that folks do not often think of. I simply add in natives

that will bloom at different times to give it a fun and whimsical appeal to onlookers, showing the beauty of growing wild.

- Embrace the naturalized plants we have been lead to think are "bad" such as dandelions, chickweed, and plantain. These plants have learned to adapt to our ecosystem and offer great benefit. There is no need to remove these plants, but rather enjoy and appreciate their food and medicine.

- If you receive a citation, remember that this isn't a big deal. They cannot come take your home and the police can't even be called into it unless it is something that is breaking city rules and regulations such as noise ordinances and basic laws. This citation is an opportunity for your voice to be heard and create change.

Here are some basic steps offered by the National Wildlife Federation if dealing with a citation:

1) Educate the HOA: One of the most important steps is to educate the HOA about the benefits of native plant gardening. Provide information about how native plants can improve the local ecosystem, provide habitat for wildlife, and reduce water usage. Read them this paper!

2) Provide examples: Show the HOA examples of successful native plant gardens in other communities. You can share photos, articles, and even invite members to visit other neighborhoods to see first hand the benefits and beauty of native plant gardening.

3) Address concerns: Address any concerns the HOA may have, such as the fear that wildflower gardens may look messy or attract pests. You can explain how a well-designed native plant garden can be both beautiful and low-maintenance, and how the plants can attract beneficial insects and birds leading to an overall healthier ecosystem for us all.

4) Work with the HOA: Work with the HOA to develop guidelines for native plant gardening that are acceptable to all parties. For example, help create the updated plant palette, view other community guidelines offered by the National Wildlife Federation's Mayors Monarch Pledge (https://www.nwf.org/MayorsMonarchPledge/Resources/landscaping-guide), and even show them the possible certifications the community can receive.

5) Start small: Consider starting with a small pilot project or demonstration garden to show the benefits of native plant gardening. This can help to build support and demonstrate that the garden can be both attractive and functional.

6) Group support: Build support among community members by sharing information about the benefits of native plant gardening and the positive impact it can have on the community. You can use social media, flyers, and community meetings to spread the word and encourage others to get involved. (LaVaute, Kelly 2023)

If a citation feels concerning, Rosanne Plante, member of Wild Ones lawyer team called the Wild Lawyers, offers professional advice.

"First, above all else, don't panic! Let me say that again—don't panic! Don't immediately become intimidated and cut all your native plants down. Instead, listen to local officials and hear what they have to say. Stay calm. Are they asking questions that neighbors have posed to the municipality? Are they giving you a warning? Do they have an actual citation for you? If so, what law/code/ordinance have you allegedly violated? This leads to the next step and question — show me the law!
Second, if you are receiving a warning or an actual "ticket" because you have allegedly violated a local law/code/ordinance, ask which law you have broken. Ask for a written copy of your violation and the law it is based upon.
A few years ago, I was accused of constructing a mailbox out of materials and in a location that was supposedly "illegal" in my county. A county official told me I was out of compliance and offered to remove my brand new, large cement mailbox. After a lengthy lecture from him, I simply asked to see the law I had violated. I also firmly — but politely — told him I objected to his request to move the mailbox until I could review the law I allegedly had violated.
Turned out there was no law at all, but an internal policy (one that citizens had no way of knowing) against mailboxes such as mine! The county official threatened to turn me into the county attorney's office, to which I

responded positively. In fact, the county attorney and I knew each other since I am an attorney in the area. I never heard from the county attorney and my mailbox is still right where it was when built. In short, you need to see the law/code/ordinance you are accused of violating to see if, in fact, you are guilty of anything. Does the ordinance define weed? If so, can you provide information showing that your native plants are not weeds? Perhaps the official is just visiting you because your neighbors don't know your native plants are not weeds. Use the opportunity to educate your local official.

This leads to the next step: find out who you need to contact and by what deadline or date. Use this contact person to educate your local community leaders about the value of not only your own native plants, but native plantings in general. I have assisted Wild Ones members and suggested they invite local leaders to tour their gardens and learn all the positive reasons why native plants should be incorporated into lawns, landscapes and public areas. Throw a neighborhood garden walk and invite others in your area for a glass of lemonade and a presentation about native plants, their stages of development and their benefits. With knowledge comes understanding and often peace with city officials and neighborhood busy-bodies.

If contacting your local officials and educating them doesn't lead to the citation being dismissed, the next step is to know when you must appear in front of the court or city officials. Preparing for such a meeting should include reading your citation, knowing the local law involved and reaching out to professionals who can help. Experts in the field are helpful, such as the Wild Lawyers team. The WL team cannot represent you but can offer suggestions on how to handle the situation and resolve the matter amicably for all parties.

Hopefully, contact with local community leaders may not only dismiss or clear up alleged violations of local law(s)/code(s)/ordinance(s), but may lead to new understanding of native plantings. Take the opportunity to use the new model ordinance to set a precedent or update outdated local language regarding native plants and their use throughout the community. Does your area have a local Wild Ones chapter (https://wildones.org/chapters/) or a citizen's group that addresses and educates about native plants? If not, this may be a great time to launch a Wild Ones seedling chapter (https://wildones.org/chapters/start/) or suggest the local municipality establish such a group with you as the leader. The more our communities know and understand native plants, the more they will become mainstream and accepted by homeowners and planted in publicly enjoyed common areas such as city parks, greenspaces and gathering centers.

In conclusion, for native plantings to be more accepted, accessible and mainstreamed, community leaders and members must be educated regarding their use and benefits. Native plantings conserve resources such as water, reduce erosion and help mitigate against extreme and adverse climate change. It is time to change the culture and narrative of what is acceptable in home yards and gardens and public green spaces. No longer is turf grass and manicured parkways the only option, nor are they a smart use of our resources. Native plants will be the wave of the future if we emphasize their essential ecological value and resilience in our landscapes.

Now is the time to look to our past – what grew prior to widespread development — for progress in the future. The new model native plant ordinance is just one step in this overarching mission we are all pursuing for the benefit of the environment."

If you have received a citation and feel that it is not a reasonable request or needs challenging due to its restrictive or outdated nature, you can seek assistance from the Wild Lawyers associated with the Wild Ones nonprofit. Their contact email is support@wildones.org. Include in the email that you are seeking help from a member of their law team, the Wild Lawyers.

IN CONCLUSION

This is a time when we must create change. We are not the strange ones wanting to coexist; we are the forward-thinking visionaries seeing what is needed today for tomorrow. We can no longer wait for the cavalry to come and save us. The governing systems and large corporations are not willing to lose funding and votes to create the large changes needed. Our actions and demands are what create change. When herbicide companies see sales of organic products skyrocketing, they will create more of those. When nurseries see us purchasing more native plants than exotic ornamentals, they will offer more native plants. When the cities that we live in see us demanding toxin-free yards, this trend will spread to playgrounds, schools, and shared common spaces. We are the ones who make the change, and it's time. A fear of the wild is driving this environmental genocide, and we must put that fear to rest for the health and preservation of us all.

Let's change the narrative. Each of us can create ripples of positive change that travel further than we could ever imagine. Repairing the relationship one yard at a time creates a patchwork of coexistence. These yards, interwoven as harmonious habitats, provide shelter, food, and medicine for us and our wild kin. Patchwork pieces stitched

together create a cozy quilt across the globe for our wild family to find refuge and healing. It's time to change the common image of the outdated turf grass lawn serving nothing other than appearance and days of old status symbolism. In modern times, a yard filled with nourishing food for your family and a safe haven for our at-risk species shows a forward-thinking visionary who knows what is needed now. Not living in the past, but instead living in the moment and looking toward the future. Together, we can do this. Our world depends on it.

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