Ecological Design

MINI MEADOWS

NATURAL POND DESIGN

COLORFUL XERISCAPES
As part of our ongoing look at sustainability, the Spring issue of The Designer looks at design from an ecological perspective with projects, techniques, and practices that aim to create landscapes that are harmonious with their surroundings and provide comfort to all who experience them. We kick off the issue with a tour of the recently expanded and redesigned Glenstone art museum in Maryland, a must-visit for any designer in the area.

Then we jet off around the world with Natasha Petroff to look at various international sustainable design practices, from Australia to Thailand to British Columbia. Jenny Peterson and Rick Laughlin, FAPLD, stay closer to home, examining ways to create pet-friendly landscapes that the whole family can enjoy. Sue Goetz teaches us how to design a natural pond that won’t become overrun with invasives.

Bobbie Schwartz, FAPLD, tackles the dry side of sustainable design with a case study demonstrating how to design a Xeriscape that’s colorful in all seasons. Christopher Freimuth profiles an urban designer seeking to create the same sense of tranquility and calm in the middle of bustling Manhattan streetscapes, while Troy Marden journeys to Great Britain and France in this issue’s “Travel Inspiration” to find that good design and sustainability can meet in the middle with stunning results. As a special treat, we have an excerpt from the new book Mini Meadows, by Mike Lizotte with photographs by Rob Cardillo, which gives ideas for incorporating meadows into everyday landscapes.

The sum total of our contributors’ explorations shows that, regardless of the location, space, or plant palette available, sustainable design does help establish a lasting and meaningful connection between natural and built environments and the individuals who inhabit them. Here’s hoping you find a few new ideas to work into your practice.

Katie Elzer-Peters  EDITOR@APLD.ORG
Colin Miller of Envision Landscape Studio’s design of Happy Valley, in Lafayette, California won a silver award in 2018. The eco-friendly design included a Madrone tree grove, native California drought-tolerant plantings, and native California Bent Grass as a lawn alternative. PHOTOGRAPH BY JOE DODD
Your Place in the Ecosystem

Has anyone ever told you that you must make a conscious effort to work within a relationship in order for it to be successful? Certainly, a healthy and supportive relationship can “just happen” if needs are met, opportunities realized, and goals achieved. We humans need to work on our relationships, but nature has it perfected, so long as humans do not come along and disrupt that balance—which, of course, is exactly what we have done and have been doing for centuries.

When describing their new Meadow Garden, Longwood Gardens describes ecological design as “a blend of horticulture and ecology that seeks integrated solutions to integrated problems.” Ecology, that branch of biology that studies the interaction between living and non-living things within the same environment, is essentially the study of relationships. In order to be successful in these relationships, we must have “a deep understanding of the structure, function, and relationships that exist within an ever-changing ecosystem.”

We humans are a part of that ever-changing ecosystem, adding complexity to the equation of living and non-living elements, whether they are indigenous or introduced, that are all trying to exist within the same space. Humans bring with them their needs, wants, and desires, programmatic requirements and expectations, or preconceived notions of propriety, quality, and beauty. As designers working in that realm we become counselors of sorts, searching for ways to reconcile the needs of each organism within that environment.

In this issue, I encourage you to find at least one new principle, practice, or method for your ecological design toolkit and get to work on those relationships!

Cheers,

DANilo MAFFEi FAPLD

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The only magazine written by designers for designers, *The Designer* is looking for talented members like you to share your stories, teach new techniques, and inspire with your designs.

All submissions from APLD members are considered, but *The Designer* is particularly interested in articles that fit the issue’s editorial theme or are appropriate for one of the magazine’s regular columns spotlighting technology or business strategies.

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Designer of the Year 2018
Margie Grace, Grace Design
Associates “Sycamore Canyon” in Montecito, California

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>>Click here for our submission guidelines.
Christopher Freimuth
Designer Profile
p. 34

Christopher Freimuth is the founder and director of CF Gardens, a landscape design firm based in New York City. He collaborates with a dedicated team of gardeners to design, install, and maintain rooftop and backyard gardens throughout NYC and the metro region. Trained at the New York Botanical Garden’s School of Professional Horticulture, Christopher’s aesthetic brings horticultural sophistication into the urban environment. By prioritizing ecological planting design, he creates gardens that support the people, plants, and pollinators of his beloved city and its surroundings.

Sue Goetz
Design 101: Pond Design with Nature in Mind
p. 46

Sue Goetz is an award-winning garden designer, writer, and speaker. Through her business Creative Gardener, she works with clients to personalize outdoor spaces from garden coaching to full landscape design. Writing and speaking are other ways Sue shares her love of the garden. Her motto of “...inspiring gardeners to create” defines her talks and hands-on workshops. She is the author of two herb books: A Taste for Herbs (January 2019) and The Herb Lover’s Spa Book (January 2015). www.thecreativegardener.com

Rick Laughlin, FAPLD
Hot Take: Petscaping
p. 27

Rick Laughlin, FAPLD is a landscape designer and owner of Laughlin Design Associates in Salt Lake City, UT. Rick prides himself on designing 3D landscapes that give the homeowner pride and joy in their dream landscape. His designs have covered it all: low-maintenance, low-water landscapes, edible gardens, fire pits, patios/decks, native plant installations, lighting/audio, vertical gardens, interior landscaping, pergolas/arbor/fencing, petscaping, and sustainability. Rick relies upon certified, top-notch professionals such as arborists, construction pros, and others to deliver the best results possible.

Troy Marden
Travel Inspiration: The Manufactured Meadow
p. 62

Troy Marden Travel, where he coordinates and leads group tours across the country and around the world. For more information, visit www.troybarden.com.

Jenny Peterson
Hot Take: Petscaping
p. 22

Jenny Peterson is an award-winning garden designer with her firm, J. Peterson Garden Design, as well as a writer, author and speaker. She specializes in designing, writing, and speaking about gardens that enhance the quality of life, heal from the inside out, and help to create balance and wellness. She is author of the award-winning book, The Cancer Survivor’s Garden Companion: Cultivating Hope, Healing & Joy in the Ground Beneath Your Feet (St. Lynn’s Press 2016).

Natasha Petroff
In the Field: Sustainability across Borders
p. 28

Natasha Petroff, FAPLD is a landscape designer in Shaker Heights, Ohio, is the owner of Bobbie’s Green Thumb. She is an obsessed gardener, has won several design awards, and is a longtime member of the Perennial Plant Association, GardenComm, and the Association of Professional Landscape Designers. She lectures nationally, is a regular contributor to publications on perennials and landscape design, and is the author of Garden Renovation: Transform Your Yard into the Garden of Your Dreams.

Bobbie Schwartz
FAPLD Case Study: A Xeriscape for All Seasons
p. 54

Bobbie Schwartz, FAPLD, a certified landscape designer in Shaker Heights, Ohio, is the owner of Bobbie’s Green Thumb. She is an obsessed gardener, has won several design awards, and is a longtime member of the Perennial Plant Association, GardenComm, and the Association of Professional Landscape Designers. She lectures nationally, is a regular contributor to publications on perennials and landscape design, and is the author of Garden Renovation: Transform Your Yard into the Garden of Your Dreams.
Glenstone

Where: Potomac, Maryland
When: Thursday–Sunday, 10 am–5 pm
Cost: Free, but reservations must be made in advance
It’s only fitting to begin our exploration of ecological design with an introduction to Glenstone, the recently reopened art museum in Potomac, Maryland. It’s so much more than a museum, though. Its mission is to be “a place that seamlessly integrates art, architecture, and landscape into a serene and contemplative environment.” Glenstone reopened October 4, 2018, after a large expansion and reimagining of the grounds.

Designer Eva Monheim says, “It is a fascinating place. I don’t think you would ever get tired of going back.” She said that sculptures and buildings were seamlessly worked into the landscape, and that the stunning views throughout the property were impeccably designed. “You’re right in the middle of this major metropolitan area, and you’d never know it,” she says.

Paul Tukey, the Chief Sustainability Officer, says this is all by design. The first phase of the museum and landscape was completed in 2006. The Peter Walker Group, with Adam Greenspan as the principal landscape architect, undertook a huge re-contouring of the land to site buildings and landscape features, developing a flow throughout the property that would pull visitors along, hiding and revealing artwork, views, and buildings. Paul says, “They spent so much time siting things in consideration with the founders, asking questions like, ‘Should the elevation mound be 30 feet high or 40 feet high? What is this sight line going to be?’ What you’re left with is really something stunning visually.”

Ecologically, though, there was work to do. Non-natives took center stage and the landscape, as it stood, required tremendous amounts of chemical inputs. In 2011 Glenstone embarked on an expansion program. Paul was brought on as a one-day consultant to teach organic lawn care. “It was unlike any other place I’ve been to,” he says. “By the end of the day they had terminated their existing IPM contract and put me on retainer. The founders are passionately committed to the idea of sustainability.” He continues, “People still think that to go organic means giving up on appearances, and Glenstone today shows that isn’t true.”
While architects Thomas Phifer and Partners were planning the new buildings, the design team pivoted toward a strong focus on natives and plants that would survive the Mid-Atlantic climate with high deer pressure. “We spent a lot of time working with the soil and transitioning to native meadows and plant palettes,” Paul says. “We’re not done, though. There’s still a lot of white pine on the property. We’re working on restoring the three streams on the property. We’ve torn down 20 old homes on the property and donated the materials to local nonprofits.”

During the second phase they planted more than 8,000 trees in the 4- to 8-inch caliper range and moved about 200 large trees. The Pavilion is built 50 feet into the ground and uses geothermal heating and cooling. “They have an incredible green roof that is not anything like any other green roof I’ve ever seen,” says Eva. “It brings you up and over and through the building and complex.”

“Glenstone is a member of the International Facility Management Association. We’re the most efficient art museum in the world,” says Paul.

The end result of careful collaboration and planning between the architects, landscape architects, and landscape horticulture team is what PWP Landscape Architecture describes as, “...a new kind of museum landscape, one that envelops visitors from the moment they arrive, encouraging them to set aside everyday concerns and facilitating their enjoyment of art and architecture in an integrated natural environment.”
**SUSTAINABLE LANDSCAPE CONSTRUCTION, Third Edition: A Guide to Green Building Outdoors**

By Kim Sorvig and J. William Thompson

ISLAND PRESS, FEBRUARY 2018

The third edition of what is, essentially, a textbook, has updates to reflect changing times since its first publication in 2000. The authors say, “Use this book to develop or improve your ability to conceptualize sustainable materials or methods. Then adapt these concepts to site-specific conditions.”

About the second edition, Landscape Architecture magazine wrote, “This . . . should be on the shelves of most practitioners, because it is indeed a guide to making the changes in thinking and practice necessary for a sustainable future.”

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By Elizabeth Lewis

ROUTLEDGE, FEBRUARY 2018

New to sustainable design? Look into Sustainaspeak, a handbook with definitions of over 200 commonly used terms for sustainable design practices.

>>Click on book or title to view online and buy.

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**CHALLENGE ACCEPTED.**

**LOW SCAPE MOUND**

*Aronia melanocarpa ‘UConnAM165’ pp#28,798, cbraf*

Cute as a button yet tough as nails, Low Scape Mound*™* has a tiny, mounded habit with loads of white spring flowers and purple-black fruit in summer. This dwarf chokeberry will rise to any landscape challenge, thriving almost anywhere, cold climates and hot, wet soils and dry, sun and part shade.

FULL TO PART SUN | USDA ZONE 3, AHS 9 | 1-2' tall, 2' wide

PETSCAPING: Designing for Dogs
BY JENNY PETERSON

While pet-loving gardeners and designers keep all animals’ safety in mind when creating landscapes, more and more pet owners are asking for specific pet-friendly landscaping. Because we love both our dogs and our gardens, we want to ensure that Maximus has space to run without decimating prized plants, injuring himself, or irritating the neighbors. Here’s what you need to know to keep the landscape from, quite literally, going to the dogs.

PLANTS

While most people are aware that some plants are toxic to dogs (Sago Palms, Oleander, Tulips, Castor Bean, for example), you might be surprised at how extensive that poisonous plant list actually is. Symptoms range from simple stomach upset to liver failure and even death, so it’s imperative to use dog-friendly plant palettes, particularly if Maximus is infamous for his plant-chewing skills. And, although you may be tempted to use spiky and thorny plants as a dog-busting screen, experts advise against it—corneas + scratching = an uncomfortable pooch and high vet bills. ➤

FREQUENTLY USED PLANTS POISONOUS TO DOGS
A short list includes:
- Sago Palm
- Oleander
- Azalea
- Castor Bean
- Coleus
- Chrysanthemum
- Hosta
- Cyclamen
- Begonia
- English Ivy
- Sweet Potato Vine
- Japanese Yew
- Hellebore

Find a full list of poisonous plants click here.
Many dogs love to chew on mulch, so your choice of soil covering is important. Did you know that cocoa mulches (containing cocoa bean shells) contain theobromine, which can cause diarrhea, vomiting, seizures, ataxia, and even death? And while rubber mulch is ideal in children’s play areas, it’s less ideal for mulch-munching doggies. Better choices include river rocks, small pebbles, or compacted gravel.

Veterinarians report that metal or steel edging poses slice-and-dice issues with tender paw pads, resulting in surgeries and painful recuperations. For dogs who love to run over everything, better edging options include thicker recycled wood-look edging, or a classic trench edging with no physical barrier. And while plastic edging will, of course, be gentler on dogs’ paws, it’s a less desirable landscaping feature—with all the landscape products at our disposal, it’s not necessary to choose between garden aesthetics and pet safety.

When dogs spend copious amounts of time outdoors, it’s important to provide fresh water for them, so consider employing automatic water bowls that hook up to water spigots. And speaking of water—there’s the little matter of in-ground irrigation that some larger dogs love to dig up and chew. If the property is larger or the homeowner is hands-off, significant irrigation damage (leading to plants literally dying from dehydration) can occur within days. I’ve found that a larger river rock topdressing, rather than mulch or pea gravel, in vulnerable areas keeps even the most determined dog from digging.

Proper fencing protects dogs, gardens, and your relationships with neighbors. Use decorative fencing for more fragile gardens (wildflowers, annuals, soft perennials), see-through ranch-panel fencing to separate areas of the yard or create dog runs, and solid-panel fencing to keep Maximus from fence-fighting with Scooter next door. To avoid a fence-heavy landscape, however—and who wants to have even beautifully constructed fencing overpower a stunning garden?—it’s worth considering the “invisible fence” options that train roaming dogs to do their thing outside of the prized rose garden.

We know dogs love to run, so give them some pathways to do it safely. If you notice your dog is running a particular pattern, aim to create pathways there, with pup-friendly plants in the area.
Four Things to Include in a Fido-Friendly Landscape

BY RICK LAUGHLIN

■ Peeing Posts
If you don't want your pets to lift their legs on your Ligularia, provide a place for them to “go.”

■ Fresh Water
Your dog will love a fresh water fountain or bubbler. You could also include a small pool for cooling off.

■ A Gravel Runway
Pay attention to frequently traveled pet paths and put down gravel (never wood mulch) for them to meander along.

■ Shade
See where your pet likes to lounge and provide shade (preferably not in the form of your shrubs). Get creative with sailcloth and various materials.

DOG RUN DIMENSIONS

<table>
<thead>
<tr>
<th># of Dogs</th>
<th>Under 50 lbs.</th>
<th>Over 50 lbs.</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>6 x 10 (60 square feet)</td>
<td>8 x 10 (80 square feet)</td>
</tr>
<tr>
<td>2</td>
<td>8 x 10 (80 square feet)</td>
<td>8 x 12 (96 square feet)</td>
</tr>
<tr>
<td>3</td>
<td>8 x 12 (96 square feet)</td>
<td>10 x 14 (140 square feet)</td>
</tr>
<tr>
<td>4</td>
<td>10 x 12 (120 square feet)</td>
<td>12 x 16 (192 square feet)</td>
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DOG RUNS

Dog runs and small and large dog parks are sought-after features for medium-to-large properties, apartment complexes, and condominiums. They allow open space for dogs of all sizes to run, romp, and cavort while protecting people, pets, and the surrounding areas. Check out this sample dog park design as well as the handy chart for dog runs. And, as always, ensure there is fresh water, shade, and shelter for dogs both in runs and parks.
HASSELL, a residential development near Perth, Western Australia, resides on a wooded dune escarpment overlooking a lake. The design has provided ecosystem regeneration and preservation as well as interconnection to a nearby school grounds.

PHOTO COURTESY OF HASSELL WITH PHOTOGRAPHER PETER BENNETTS
Picture, for a moment, the world as an ecological byway. It starts at your doorstep and snakes through your backyard. From above, it appears as an arboreal lattice that crawls over your neighborhood, spills into greenbelts, and interconnects with a larger matrix that flows across your town. The town itself is a tangle of walkways, bikeways, and roadways that connect with bridges of permeable hardscape and vegetative matter. Where one material stops and the other begins is invisible to the eye—all blend seamlessly with waterways that stream underground, underfoot, and overhead on their inevitable way to the ocean. And from there to the sky. And back to your doorstep. This endless knot of interways is the single biomatrix that traverses all borders, wrapping the globe in the netting of water and life that enables all to thrive.

IT STARTS WITH A VISION
From a landscape designer’s perspective, work starts with a vision. Zoom in and you can identify the biological needs of a space and the lifestyle needs of the people who take care of it. Zoom out and there’s more to consider just beyond the borders. Zoom further out and there’s an interdependent planet where independent governments act on their own visions. Or do they?

Starting in 2013, the United Nations set about devising global development goals that could be followed toward a common vision of sustainability. From there, governments began applying these in their own codes and practices for architects and engineers. Today, across the globe, landscape designers are in the unique position of applying the guidelines—by choice—with a perhaps more nuanced understanding of the relationships between built environments, people, and ecosystems.

TAKING BROAD AIM
Designers are supporting the UN goals in many ways.

■ Sustainable food production, by incorporating food growing and the supporting communities—building resilience in face of climate change.
■ Healthy lives and well-being, by creating safer, greener roadways that lend to multimodal transportation, as well as accessible, interactive, and restorative spaces.
■ Inclusive, quality education, by including information such as signage and

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BY NATASHA PETROFF

View of One Central Park building in Sydney, Australia. In 2013, it was awarded by the Green Building Council of Australia. The building is famous for its vertical gardens including exotic and Australian native plants.

inthefield

ISTOCK
guided tours in every type of project—spreading awareness and stewardship.

■ Sustainable water management, by designing to protect water resources, counteract pollution, and restore aquatic ecosystems.

■ Ongoing improvement, by "designing green," incorporating renewable resources to increase and sustain productivity and comfort.

■ Cooperation through partnership, by seeking input from stakeholders who pay for and steward sites, paving the way to broader-scale collaboration and impact.

The beauty of the UN goals is that they can be applied at any scale, starting at the residential back porch and extending to larger projects. Applications can include the following and integrate sustainable materials and renewable energy systems:

■ brownfield & ecosystem rehabilitations
■ designs for active living
■ green infrastructure

■ transportation infrastructure
■ urban forestry
■ urban parks

SETTING SITES LOCALLY

One measure working toward the UN goals is the SITES initiative in the United States. Created by the American Society of Landscape Architects, the University of Texas, and the United States Botanic Garden, SITES applies a point-based rating system to encourage creation of beautiful, functional, and regenerative landscapes. SITES certification aims to reduce water demand, filter and reduce storm water runoff, provide wildlife habitat, reduce energy consumption, improve air quality, improve human health, and increase outdoor recreational opportunities. It’s being successfully applied to open spaces, streetscapes, commercial sites, residential sites, and educational/institutional settings.

FURTHER READING

To learn more, visit any of these websites:

■ United Nations Sustainable Development Summit
■ Sustainable SITES initiative and certification
■ 10 Projects That Put Sustainability at the Forefront of Landscape Architecture
■ 16 Spectacular Green Roofs Around the World
■ 8 Stunning Green Walls From Around The World
■ Iceland Blends Renewable Energy into the Landscape

Click name to view online
"Don't die!" Shanti yells as we squeeze between a Mack truck and a shiny red Tesla. We're crossing 41st St. on the west side of 10th Ave.—the northern entrance to the Lincoln Tunnel. "No, really, pedestrian death is a thing here." As if to prove her point, the Tesla inches toward us. Its bumper kisses her calf. I stare at the driver in disbelief while Shanti turns to me unfazed and beams, **Welcome to my world!**

Shanti Nagel is a landscape designer and principal of Design Wild, a design and install firm known for its dedication to sustainability, style, and social justice in New York City. Indomitably talented and relentlessly energetic, her public and private landscapes form a mosaic of greenspace connecting the city's rooftops, balconies, backyards, and public spaces.

Today Shanti is taking me on a tour of some of her recent public projects in Hell's Kitchen, where she’s reclaiming the Lincoln Tunnel Corridor as the Lincoln Tunnel Ecosystem. A complement to the celebrity terraces and elite spaces she tends across town, this kind of gardening is all grit,
no romance. We’re at the gaping mouth of one of the most highly trafficked areas in the city, saturated with exhaust, homeless people, rat boxes, and … *Magnolia virginiana.*

“In a neighborhood that barely has any green space,” Shanti asks with characteristic concern, “how can we make the sidewalks into a garden?” It’s a rhetorical question, of course, with the answer all around us. For nearly a decade, Shanti has been partnering with the Clinton Housing Development Corporation to “green up” the district—both for its people and its pollinators. This garden revolutionary knows exactly what she’s doing.

Our tour starts with the sidewalk gardens. Shanti has worked with CHDC to transform over one hundred “tree pits” into fully designed, 4-ft. x 8-ft. miniature gardens. *Robinia, Styrhobolobium,* and *Gleditsia* are fierce contenders against the pollution and abuse of the urban environment. And, eschewing the staid parade of annual pansies, begonias, and mums that carpet tree pits around the rest of the city, Shanti’s underplantings boast an explosion of life: evergreen *Euonymus,* Knock Out® roses, cutback *Cotinus,* native *Ilex glabra* and a wide mix of street-hardy perennials.

“We’ll start planting and, *as we’re planting,* they show up!” Shanti recalls the Monarchs and bees that start feeding on plants even as they’re being installed. “Where did they get the memo? How does that work?”
In the “Plazitas,” overseen by the Hudson Yards Hell’s Kitchen Alliance, she’s designed on-the-road plantings in oversized containers. Here, *Cornus florida*, *Hydrangea paniculata*, and *Lagerstroemia* provide structure for underplantings of *Heuchera*, *Liriope*, *Nepeta*, and annual *Lantana*. Similar plant combinations populate the roadside bump-outs, street seats, and bike lane gardens on 9th Avenue and its cross streets.

Shanti’s plant combinations merge into the perfect Venn diagram of beauty and proportion, urban grit and easy maintenance.

And then there’s the Canoe, which is a large, boat-shaped island of concrete framed by the southern access ramps to the Lincoln Tunnel. Planted in fall 2018, in what I’m reminded is only 18 inches of topsoil sitting above a mysterious subsoil of urban fill, sits a double border of mixed woodies, evergreens, and perennials. Waves of *Cornus alba* ‘Ivory Halo’ flow through trios of junipers; there’s a *Hamamelis* for accent here, a combination of *Agastache* and *Asclepias* there, and an eddy of *Dryopteris erythrosaura ‘Brilliance’* around the corner.

We wrap up our tour with a cup of coffee and a scone at Rustic Table on W. 42nd St., chatting about next steps. Shanti’s public projects are years in the making—all that *Asclepias* has to be reviewed by the Hudson Yards Business Improvement District and the Department of Transportation and CHDC and the Port Authority and neighborhood committees and contractors and insurance providers and … the list goes on.

As we leave the café, assaulted by wind and screaming ambulances (is that a red Tesla?), we walk by one of Shanti’s magnolias. “If you can make it here,” I smile wide, thinking both of the tree and the woman who planted it, “you can make it anywhere.”
Many people have become aware of the huge problem facing pollinators — those insects that move pollen from flower to flower, helping to produce most of our food crops. They are disappearing at an alarming rate, which affects not only the natural ecosystem but also our food supply. The good news is that there is a lot we can all do to help solve the problem. As home gardeners, we can make a big difference by avoiding the use of pesticides, by providing a source of water for insects and birds, and by growing a meadow that’s full of plants to attract pollinators and other beneficial insects. Pollinators include many different species of bees, butterflies, moths, flies, beetles, and even bats. Depending on your...
region, you will see a variety of these pollinators native to your area around your garden. Planting a combination of annual and perennial flowers allows for early flowers in the first growing season — which pollinators depend on — and provides long-lasting habitat that insects can come back to year after year: another key to their survival. Planting a “near-native” landscape (one with both native and nonnative species) usually results in longer bloom time and more nectar and pollen sources throughout the season, which benefits a wider range of pollinators.

**Long-Lasting Perennial Wildflowers for Pollinators**

- Butterfly weed (*Ampeloprasium tuberosum*)
- Joe-pye weed (*Eupatorium maculatum*)
- Purple coneflower (*Echinacea purpurea*)

- Wild bergamot (*Monarda fistulosa*)
- Anise hyssop (*Agastache foeniculum*)
- Blazing star or gayfeather (*Liatris spicata*)

**ANNUAL WILDFLOWERS FOR POLLINATORS**

Annual wildflowers are extremely beneficial to pollinators: they serve as a quick food source for bees, butterflies, and hummingbirds while your perennials continue to develop. Even if your plan is to create a low-maintenance perennial meadow for pollinators, planting some annuals each year — even after your perennials are established — is extremely helpful. Many annual wildflowers, like those on the list below, are...
extremely nectar-rich, providing essential nutrition for a variety of different pollinators.

- Partridge pea (*Chamaecrista fasciculata*)
- Plains coreopsis (*Coreopsis tinctoria*)
- Rocket larkspur (*Delphinium ajacis*)
- California poppy (*Eschscholzia californica*)
- Toadflax or baby snapdragon (*Linaria maroccana*)
- Arroyo lupine (*Lupinus suculentus*)
- Red poppy, Shirley poppy, or corn poppy (*Papaver rhoeas*)
- Lacy phacelia (*Phacelia tanacetifolia*)
- Zinnia (*Zinnia elegans*)

**PERENNIAL WILDFLOWERS FOR POLLINATORS**

Many perennial wildflowers not only act as a dependable food source for pollinators but also provide shelter and serve as host plants. Additionally, perennials are a great way for gardeners to provide a variety of wildflowers for pollinators and not have to worry about planting each year. Here are a few perennials to plant for the pollinators:

- Common yarrow (*Achillea millefolium*)
- Plains coreopsis (*Coreopsis tinctoria*)
- Blanketflower (*Gaillardia aristata*)
- Wild lupine (*Lupinus perennis*)
- Mexican hat or prairie coneflower (*Ratibida columnifera*)
- New England aster (*Symphyotrichum novae-angliae*)
- Thyme (*Thymus vulgaris*)

**HOST PLANTS FOR POLLINATORS**

Host plants play another important function for pollinators: they provide optimal egg-laying sites. One of the most well-known and critical host plants is milkweed (any of a number of species of *Asclepias*), which is the only plant monarch butterflies will deposit their eggs onto. Milkweed and many of these other plants play a key role in helping a wide range of pollinator species, so plant them with abandon:

- Butterfly weed (*Asclepias tuberosa*)
- Swamp milkweed (*Asclepias incarnata*)
- Purple coneflower (*Echinacea purpurea*)
- Common sunflower (*Helianthus annuus*)
- Shasta daisy (*Leucanthemum x superbum*)
- Black-eyed Susan (*Rudbeckia hirta*)
- New England aster (*Symphyotrichum novae-angliae*)
Just over 8 years ago, I designed a small, 20-ft. x 30-ft. entry for a client in a small town just outside of Tacoma, Washington. It was the quintessential English-style courtyard with raised brick planting beds for herbs, edibles, and cut flowers. In spring 2017, the homeowners called me to produce a design for their back landscape. In contrast to the tiny front plot, the back is a 190-foot-long grassy slope. The lowest area along the property boundary is a natural pond with standing water most of the year. Over time, the “pond” has become entangled with Himalayan blackberries and overrun by common horsetail. One of the bigger issues was the infestation of Japanese knotweed (*Polygonum cuspidatum*), an invasive, noxious weed in the state of Washington. The small community of Steilacoom, where the property is located, has taken steps to eradicate Japanese knotweed throughout the area, and this low-lying pond is one of the areas where this effort has focused.
property had caught the attention of the town’s public works department. The homeowners asked me for a design that would be aesthetically pleasing, but also clean out the invasive weeds before the town required the homeowners to clear-cut it all.

**START WITH THE END IN MIND**

Although the clients asked me to design the entire back landscape, their biggest concern really was what to do with that mess at the bottom of the slope. The complexity of a natural pond overrun with problematic plants that bordered a vacant lot infested with the same noxious plants had the homeowners at a loss. To start a design, one of the important things I ask is, how does the client want to use the space. For the homeowners of this property, creating a haven for wildlife is important to them. They asked me to preserve very old apple trees and hummingbird- and pollinator-attracting perennial borders in the upper portion of the yard. It seemed a natural transition to create a wildlife pond along the edge of the property. The home sits on the higher end of the slope with a deck that offers magnificent views of the sunsets on the Puget Sound. That view also looked down at the pond mess, which was another good reason to make it more attractive. Rather than fight the watershed area, we created a natural space where natural water can collect and wildlife can gather.

**BEFORE**

The project started with a pond that had become choked with invasive plants.
PREPARE FOR PERFECT TIMING

The timing of the project was vital. We scheduled it in dry, summer weather when the pond would not be holding too much water. The area had to be cleared with machinery because of the mass of blackberry vines and knotweed; the entire root systems of Japanese knotweed must be removed or it will sprout again. Because we had to disturb so much soil, I designed a berm along the property line to help stabilize the edge and prevent overflow of water onto the neighboring property. To help manage any plants creeping over from the adjoining vacant lot, we cleared a 3-foot area just on the other side of the berm and heavily mulched it with wood chips.

WORK IN HARMONY WITH SURROUNDING ENVIRONMENTS

The pond was designed with large landscape boulders placed throughout, and we incorporated fallen logs and snags found on the property. Rounded river rock was used to create “beaches” that drift into the bottom of the pond to define it. The rock will also help control any future erosion that might occur because of the soil disturbance done to initially to clear the area. Native plants were planted around the pond to create a design as if this quiet spot of nature had been there all along.

I spoke with the homeowners recently to ask how the pond was doing, and they said it is exactly what they wanted. It has attracted wildlife, frogs, and birds, and is a pleasure to view as well. The homeowners said the town has also taken an interest and has been watching how well the area has been reclaimed for nature as well as the noxious weed management.
On the design side, use natural boulders and rocks; place them to imitate nature. Visit areas around natural water streams and carefully observe rock placement; nature simply doesn’t line rocks up in a row.

Use native plants and natural elements such as fallen logs and tree stumps in and around the pond.

Consider the types of wildlife you want to attract and what their needs are, such as food and shelter.

Know the water capacity before you alter the land, and definitely observe it in the rainy season. If the ponding area is changed, make sure it is not altered to the point where it may flood other areas after a large rain event. Have a plan for safe outflow (overflow).

Establish natural boundaries, much like the design of a rain garden or bioswale, to help counter erosion.

Avoid soil compaction as much as possible. Use rubber track machinery and protect the roots of surrounding trees if needed.

Create a balance of plants to help filter water naturally. Including trees and large shrubs on the outer areas of a pond for shade will help inhibit sunlight on the surface of the water to reduce algae growth. Plant bog plants and “marginals” that will thrive in the moist environment to help filter the water.

THINGS TO THINK ABOUT WHEN WORKING WITH A NATURAL POND
A Xeriscape for All Seasons

BY BOBBIE SCHWARTZ, FAPLD

BEFORE

PHOTOGRAPHY BY BOBBIE SCHWARTZ, FAPLD

Spiraea ‘Dakota Goldcharm’ and Sedum ‘Angelina’ are in full bloom in early June while the feathery branches of Russian Sage echo the house color.
A CONUNDRUM
How does a landscape designer transform a space that is stark, unusable, and an eyesore into a welcoming, joyful, colorful, ever-changing, usable landscape?

My client presented me with the following project parameters:

- low maintenance (the client was somewhat physically handicapped as a result of a car accident)
- no irrigation
- excellent view from the second-floor windows as well as ground-level attractiveness
- remove all turf
- reconfigure the front walk
- add a relaxation and grill area in back
- utilize as many existing site materials as possible
- lots of color
- ornamental grasses

So, your average design brief.

CHALLENGES AND SOLUTIONS
This small zone 6 property is in an inner ring Cleveland suburb. The soil was heavy clay and the low soil level in back needed to be raised. The front faces east and is unobstructed; the back faces west and has good light in the morning and full sun in the afternoon.

The front had a typical L-shaped, narrow contractor walk that was totally obscured by overgrown Taxus and the back had a temporary, unstable walk. Other than one existing tree, there was only poor turf in the front and on the tree lawn. The back was bare soil and included an assortment of junk and sawn logs. When the sod was stripped from the front, the grade was adjusted with the excess soil moved to the back. The planting beds were amended with local leaf humus. If I were amending the soil today, I would also add enlarged aggregate for drainage.

The front walks were reconfigured into wide sweeps that now allow unfettered access from either side of the property to the front door while journeying through the landscape. A large boulder, unearthed during the soil prep, was used as a focal point amid the Amsonia in the front bed.

In back, the curvilinear theme of the front walk and existing concrete driveway was continued with a wide sweeping walk to the back staircase, plus an arc and tangent patio, both poured in concrete. The dimensions of the patio were sized to those...
of a small canvas gazebo that the client had previously purchased.

The design was presented in March 2008, implemented in May/June 2008, and augmented with a design for naturalizing deer-resistant bulbs in fall 2009. Although the design included converting two back stairways into one, the budget did not allow for this restructuring.

**SUSTAINABILITY**

After the plantings were installed, the landscape was mulched with either gravel or shredded bark, both from local sources, depending on the needs of the plants. The tree lawn was amended with gravel to facilitate drainage and the growth of a ground-cover sedum. Chips from a ground-out tree stump were used to mulch a previously weedy area between the homeowner’s garage and the neighbor’s garage.

The new front walk is permeable, with existing stone from the back now set into gravel. Although the back walk and patio are concrete, the soil has been graded so that runoff flows to the back of the property where much of it is absorbed by the

Opposite: The new sandstone walk, created from stacked stone in the back, was re-laid into gravel. Above: The project in early September is a study in subtle color and contrasting textures.

“...A large boulder, unearthed during the soil prep, was used as a focal point amid the *Amsonia* in the front bed.”
heavily mulched area between the garages. Little water has been used to maintain this Xeriscape after its first year of establishment.

**PLANTINGS**

To create a low-maintenance, deer-resistant, sustainable landscape, I selected plants that would be tough enough to withstand the vagaries of Cleveland weather and that are drought-resistant yet tolerate wet conditions for short periods. They are also varied in texture, form, height, and seasons of interest. The plant palette for this four-season landscape includes perennials, grasses, both deciduous and evergreen shrubs, and a few trees. Several genera are repeated in front and back in order to create a unified landscape.

Some plants, such as the silver-stemmed *Perovskia*, were chosen for their color echo of the house paint. Other plants such as the *Forsythia*, spireas, *Sedum* ‘Angelina’, and *Euphorbia polymorpha* were chosen for their yellow flowers or foliage, because yellow is such a joyful color.

The grasses are beautiful in all seasons, particularly when blowing in the Cleveland winds. Many of the plants that were chosen feature beautiful fall color and/or bloom such as *Amsonia hubrichtii*, *Perovskia*, *Sedum* ‘Angelina’, *Panicum virgatum* ‘Northwind’, and *Heptacodium miconiodes*.

Although only drought-resistant plants were used, this landscape does not look like a desert landscape, but instead, one that has a strong sense of place in that several plants are commonly used in this area. In addition, habitat has been created where there was none. Hopefully, my client’s neighbors will begin to imitate this lovely Xeriscape so that they can lower their water and sewer bills while creating beauty in a neighborhood of old and minimal landscaping.
A MARRIAGE OF HIGH DESIGN AND SUSTAINABILITY

The Manufactured Meadow

Mown paths add structure to informal meadow plantings.
“Sustainability” has become a buzzword in our industry of late. Hopefully, it’s more than just a buzzword and is a word that will become a part of our everyday vernacular, a word that will take on more than just its dictionary meaning and become a movement. In some places, this movement has already begun; in others, it meets with resistance. In some respects, it is not unlike the game of politics, where there are strong opinions and arguments—for and against—at each end of the spectrum, but most of us fall somewhere in the middle. As I have the good fortune to travel and visit gardens across the United States and around the world, I find myself drawn time and again to gardens where beautiful marriages have been made of great garden design and sustainability.

Two gardens that come immediately to mind are Le Jardin Plume, in Normandy, France, a modern garden built in the past two decades where grasses and finely textured perennials create a modern Impressionist painting within a framework of formal and fanciful boxwood hedges, and Great Dixter, in England, whose history goes back nearly 100 years, but whose guiding hand, Christopher Lloyd (and since Christo’s death in 2006, Fergus Garrett) saw great value in experimenting with meadows and natural areas within the context of the very highly designed and intensively gardened showplace that Great Dixter would become.
Le Jardin Plume, in Normandy, France, is a modern garden built in the past two decades where grasses and finely textured perennials create a modern Impressionist painting within a framework of formal and fanciful boxwood hedges.
Le Jardin Plume was begun in 1996 when Patrick and Sylvie Quibel purchased a seven-acre property in rural Normandy, ten miles east of Rouen. Rooted in French formality and an almost Renaissance-era scale, with razor sharp, geometric hedges forming much of the garden’s structure, they took a sharp left turn when it came to the planting plan for the beds and borders. Erupting from the confines of these finely manicured hedges are the soft and graceful plumes of hundreds of ornamental grasses, which give the garden its name, and a matrix of perennials chosen for their durability.

Plants are grown tightly together. So much so that, after an initial spring cleanup (from which all of the detritus is turned into the most delectable compost and returned to the garden), division of specimens that have outgrown their allotted space, and an annual shearing of the hedges, very
little else is required, and the garden is left largely to its own devices during the growing season.

From a design perspective, the Quibels use the following approach: no large-leaved or bold-foliaged plants that might distract from the hazy, misty, Impressionistic effect of the grasses, and no large sweeps or groupings of one plant. Instead, small groupings of plants are repeated throughout the garden, creating continuity and drawing the eye around and through the space. The soft textures and voluptuous forms are in stark contrast to the magnificently manicured hedges, and the effect is nothing short of stunning.

Now more than 100 years old, Great Dixter is one of the crown jewels of English gardens and paved the way for gardens like Le Jardin Plume. Christopher Lloyd transformed the garden of his childhood into a living laboratory and, in the process, became one of the most notable gardeners and prolific garden writers of our time.

Christo, as his friends called him, had tremendous flair and loved combinations...
of foliage and flowers that often flew in the face of British good taste, but beyond his exuberant style, Christopher Lloyd was keenly interested in, and vitally aware of, the importance of the interaction between his garden and nature. The successful development of the meadows at Dixter was a particular source of pride and his book on the subject is chock-full of knowledge that has stood the test of time. From moved croquet lawns and formal topiary gardens have sprung wild orchids and other rare plants that, in turn, attract species of pollinators and other wildlife not often seen in British gardens. Today, under the guidance of Fergus Garrett, Great Dixter continues down the path of sustainability. In 2017, Great Dixter received a grant to perform a species diversity survey of the garden and meadows, noting on their website, “Christopher Lloyd had a deep knowledge and understanding of the wildlife around him and his gardening was influenced by their needs ... Care and respect for the natural world has been embedded in the way that Great Dixter operates since the Lloyd family bought the property in 1910.”

These gardens and many others are leading the way in the successful marriage of artful design and sustainability. May we all take note and follow their lead. ❧

DIRECTORS
Kristan Browne
Attritori Consulting
1025 Nithsdale Road
Pasadena, CA 91105
(626) 755-8043

Paul Connolly, FAPLD
Sundrea Design/Build
PO Box 30777
Tucson, AZ 85751
(520) 302-7441

Laurin Lindsey, APLD
1646 Harvard Street
Houston, TX 77008
(832) 868-4126

Nick McCullough, FAPLD
McCullough’s Landscape & Nursery
14401 Jug Street
New Albany, OH 43054
(614) 989-9902

Lisa Orgler, PLA
Iowa State University, Dept. of Horticulture
129 Horticulture Hall
Ames, IA 50011
(515) 294-6375

Bill Ripley, FAPLD
Stride Studios
8525 Miami Road
Cincinnati, OH 45243
(513) 984-4882

Wickie Rowland, APLD
Design & Landscape
(Div of Labrie Associates)
PO Box 635
New Castle, NH 03854
(603) 828-8868

EXECUTIVE COMMITTEE
PRESIDENT
Danilo Maffei, FAPLD
Maffei Landscape Design LLC
202 N. Garfield Street
Kennett Square, PA 19348
(610) 357-9700

PRESIDENT-ELECT
Eric Gilbey, PLA
Vectorworks, Inc.
7150 Riverwood Drive
Columbia, MD 21046
(443) 542-0658

SECRETARY/TREASURER
Richard Rosiello
Rosiello Designs & Meadowbrook Gardens
159 Grove Street
New Milford, CT 06776
(860) 486-6507

IMMEDIATE PAST PRESIDENT
Lisa Port, FAPLD
Banyon Tree Design Studio
11002 35th Ave NE, Suite 206
Seattle, WA 98125
(206) 383-5572

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JENNIFER HORN LANDSCAPE ARCHITECTURE'S KALORAMA RESIDENCE IN WASHINGTON, DC, WAS A 2018 APLD SILVER AWARD WINNER.