

The Gardening for Nature Survey



2026

A Report from the Institute for Applied Ecology

Report prepared by Thomas N. Kaye

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PREFACE

IAE is a non-profit organization whose mission is the conservation of native species and habitats through restoration, research, and education. IAE provides services to public and private agencies and individuals through development and communication of information on ecosystems, species, and effective management strategies. Restoration of habitats, with a concentration on rare and invasive species, is a primary focus. IAE conducts its work through partnerships with a diverse group of agencies, organizations, and the private sector. IAE aims to link its community with native habitats through education and outreach.



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Cover photograph: Mary Ann Whitney-Hall (hummingbird). Side photos (left): Peter Katon (tiger lily), Evelyn Sherr (squirrel), Thomas Kaye (bee).

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Peter Katon Peter Katon is the owner of Design Native Northwest, a landscape design company based in Portland, Oregon. Inspired by native plants ecological balance and beauty that evolved over millennia, Peter’s landscape design work aims to increase awareness and appreciation for the cultural and ecological relationships between humans and the natural environment. Peter has a master’s degree in urban and regional planning from Portland State University, and is a graduate of Portland Community College’s landscape technology program.

Use of AI

Artificial Intelligence (AI) tools were used solely for minor editorial assistance during the preparation of this document. AI was utilized for grammar correction, copyediting, and formatting adjustments to enhance clarity and readability. All core concepts, data, analysis, and conclusions were generated and verified by the human authors.



INTRODUCTION

As people build houses and develop residential spaces across the landscape, wild plants, pollinators, birds, and other wildlife can be displaced. But planting gardens with native plants and providing backyard (and front yard!) habitat can make space for nature to thrive in and around human habitations. Gardens can provide significant habitat for wild organisms and at the same time provide rewarding and engaging practices for people and communities. The National Wildlife Federation recommends planting at least 70% native species to benefit wildlife¹, and their survey shows that 28% of U.S. adults are purchasing plants that are beneficial for native bees, butterflies, and birds, and 12% are converting their lawns to a natural or wildflower landscape². In addition, gardeners also find wild-type native plants as attractive or more attractive than cultivars (Hayes et al. 2026). Certifications for “wildlife” gardens are available in many parts of the country, and the Homegrown National Park initiative aims to help people add native plants and remove invasive species to promote biological diversity³.

This Gardening for Nature Survey invited gardeners to share their experiences landscaping with native plants, often called naturescaping (EMSWCD 2019) or meadowscaping (Logalbo 2022), so that new and experienced gardeners can learn from each other and have more success with their projects. Gardening for nature promotes coexistence of people and wild organisms by integrating native plants, pollinators, and wildlife-friendly features, benefiting local ecosystems and reducing negative environmental impacts.

This survey focuses on what works well and what can be improved with native plant gardening projects with questions about methods used, technical assistance and resources, observed results, satisfaction with outcome, neighbors' response, and more! We aim to learn from gardeners about who is naturescaping, what is working, and what is not working. Why do people get engaged in gardening for nature? And what impact, if any, is climate change having? We hope that the lessons learned from the survey will be useful not only to individual gardeners, but also to municipalities, native plant and wildlife conservation organizations, plant nurseries, landscape companies, and others.

Our target audience was people who have gardened with native plants and converted yards to more natural habitat and thus have direct experience with this activity – and much to share.

The results demonstrate that gardening for nature can be done on virtually any scale, by any age group, and in any part of the country. Gardening for nature is exceptionally rewarding, and even contagious!

APPROACH

The survey was designed as a purposeful survey (Patton 2015), in which we deliberately reached out to groups with a high likelihood of possessing the specific experience relevant to our topic. We designed the survey by reviewing various publications on the topic of naturescaping, meadowscaping, etc. to identify common and relevant gardening techniques and approaches. We organized our questions into these subject areas:

1. **Project context** (size, type of garden transitioned from, type of property, and motivation)

¹ <https://blog.nwf.org/2023/04/plant-50-to-70-native-benefit-more-wildlife/>

² <https://www.nwf.org/Home/Latest-News/Press-Releases/2024/5-1-24-National-Gardening-Survey>

³ <https://homegrownnationalpark.org>



2. **Planning and preparation** (planning and design methods, site and soil preparation)
3. **Installation** (sizes of plants used, habitat and water features)
4. **Looking back** (how long did it take, neighbor responses, barriers faced, overall satisfaction, best and desired resources)
5. **Additional thoughts** (meaning, value, and purpose of native plant gardening)

In all, the survey had 20 questions, plus an additional section on “about you.”

We also conducted a supplemental survey of respondents who provided email addresses for follow-up questions about their experiences with climate change:

6. **Climate change** (level of concern, observations of effects on plants, changes in practices due to warming climate, interest in assisted migration)

Most questions in the main survey and the supplement provided a series of yes/no or multiple-choice answers, often with an “other” category and the opportunity to provide written responses. The survey was implemented with the digital platform SurveyMonkey and was conducted entirely online.

Prior to release, we solicited and received reviews of the survey questions from six outside reviewers, who helped us refine and clarify the questions. We tested the survey on a small group of participants including the email list for the Corvallis Chapter of the Native Plant Society of Oregon (10 October to 24 October 2025), from which we gathered comments and preliminary answers, then made slight adjustments to clarify phrasing in some survey questions.

To reach our audience, we circulated the survey widely through various online channels, including native plant societies, nursery email lists, professional organization listservs and newsletters, social media (Facebook groups), as well as at gardening conferences (Table 1). The full survey was initially released on 19 November 2025 and all collection was closed on 6 March 2026. The survey supplement on climate change was open 23 April to 4 May 2026.

In this report, we provide a summary of responses to each question, including optional comments. After most summaries, a box labeled “Selected gardener insights” presents a few quotations from the many comments we received, illustrating the breadth of typical as well as unique perspectives.

Table 1. Survey release target groups (number of individual groups) from 19 November 2025 to 6 March 2026.

Category	Total Responses	% of Total
Native Plant Society (2)	462	36.3%
Native Plant Nursery (3)	190	14.9%
Professional / Scientific Organization (3)	174	13.7%
IAE Newsletter (2)	140	11.0%
Facebook Groups (20)	133	10.4%
Soil & Water Conservation District (combined)	91	7.1%
Naturalist / Habitat & Conservation (5)	43	3.4%
Conference / Event (3)	41	3.2%
TOTAL	1274	100.0%



SYNTHESIS

This survey provides substantial insights into the motivations and successful approaches to gardening for nature. Below is a brief summary, with detailed information found in the remaining pages. A total of 1,274 gardeners took the survey and they range widely in age, with a significant population over 65 engaged in this activity. Many respondents are located on the West Coast of the United States, but a substantial portion are on the East Coast and elsewhere.

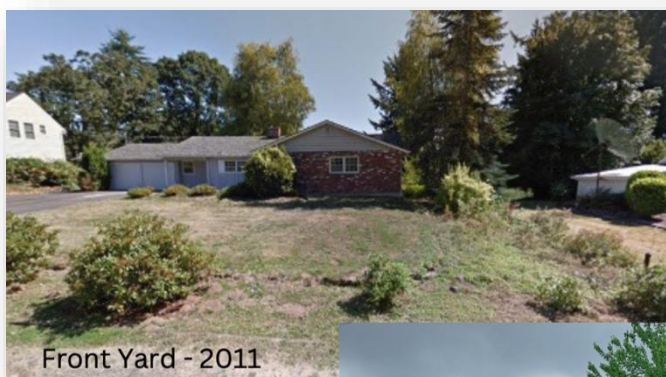
- **Where and why.** Most native plant garden projects start from lawns and weedy areas around single-family dwellings in urban and suburban areas, from small yards less than 1000 square feet to larger landscapes of 1/4-1 acre in size. The most common motivations for gardening with native plants are to provide habitat for pollinators, birds, and other wildlife, to pursue an interest in native plants, and to reduce water usage.
- **Planning.** The garden design process varies from formal landscape plans to creating the garden piecemeal and without a final plan in mind, with many starting with formal or informal plans that they modify as they go. Gardeners use a variety of resources to select their plants, such as recommendations in books and websites and their own observations of natural areas. Respondents provided a long list of helpful publications, websites, and contacts (compiled in the Appendix).
- **How to do it.** Sheet mulching to kill lawns and weeds, often as layers of cardboard covered in wood chips, is the top-rated method of site preparation. Gardeners are also very satisfied with the results of hand digging unwanted plants and mechanical sod removal. Top dressing with mulch and amending with compost are the most preferred methods of soil preparation, although depending on their starting conditions many gardeners find no soil modification is needed. Most gardeners use and are highly satisfied with the performance of plants grown in small (<1 gal) to medium (~1 gal) pots, while those who have tried seeding can be frustrated by poor seedling establishment of some native plants.
- **Pollinators and wildlife.** Gardeners frequently provide habitat for pollinators and wildlife in the form of piles of sticks, areas of bare soil, logs, hollow stems, etc., as well as water features that range from simple bird baths/water dishes to bioswales. Pollinators, birds, and other animals are often seen within the first year of the garden project.
- **Neighbors approve (generally).** Although reactions from neighbors vary, a large majority of gardeners report positive to very positive feedback. In some cases, gardening for nature is contagious: some neighbors are inspired to also garden with native plants. Some gardeners expressed frustration that their homeowners' associations do not allow naturescaped yards.
- **Effort, barriers, and resources.** About two thirds of gardeners have worked on their natural gardens for over three years. The majority of gardeners are "extremely satisfied" with naturescaping their gardens, though in hindsight wish they had possessed a better understanding of how big plants would get or the conditions under which they would thrive, removed more weeds early on, and installed pathways. The most common barriers are financial costs and physical constraints of the work involved. Gardeners mentioned a trove of helpful resources (summarized in the Appendix) and suggest they would like



locally based educational and cooperative opportunities, such as demonstration gardens, plant sharing networks, site tours, and workshops.

- **Finding meaning and purpose.** Nearly half of respondents describe their native plant garden as a direct source of joy and hope. Gardeners use words like "therapeutic," "sanctuary," "life-changing," and "magical" to describe their experience, noting that their garden provides a positive contribution and sense of calm in a world that otherwise feels overwhelming (a reciprocity of nature and gardener nurturing each other).
- **Climate change is forcing gardens and gardeners to change.** Most gardeners are concerned that climate change will affect (and already is affecting) their garden's plants and wildlife. About a third believe that some of their garden plants are struggling due to climate change, in some cases naming species (like western red cedar) that appear to be under stress or dying out (see Table 2). Also, many gardeners are changing which species they select for their gardens, shifting where they plant them, and watering more and/or improving watering efficiency. They are coping in response to warming/drying trends, intense weather events such as droughts and floods, and increased weather variability. Some gardeners are even grappling with the effect of climate change on how to define a native plant. The changing climate is exacting a physical toll of heat on gardeners themselves and leading to grief about ecological loss, but some gardeners are maintaining cautious optimism through growing community engagement and use of naturescaping as a climate-coping action.

Below are the results for each question in the survey, with summaries (for questions with open ended comments) of the many individual remarks we received.



Before and after: A fully naturescaped front yard, from lawn to habitat.



Photos: Leah Puhlman

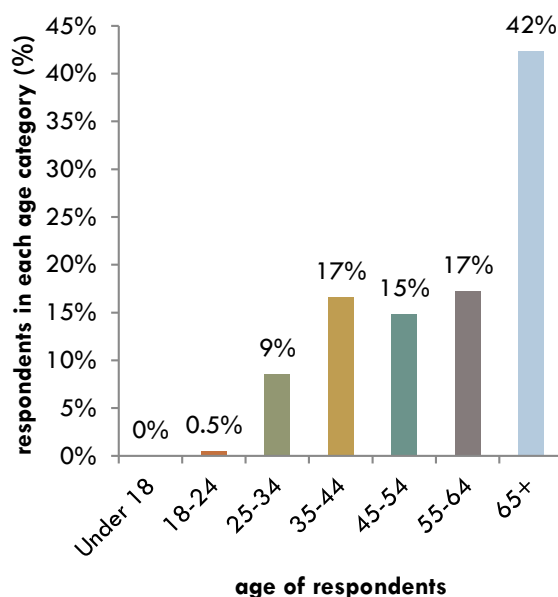


SURVEY RESULTS

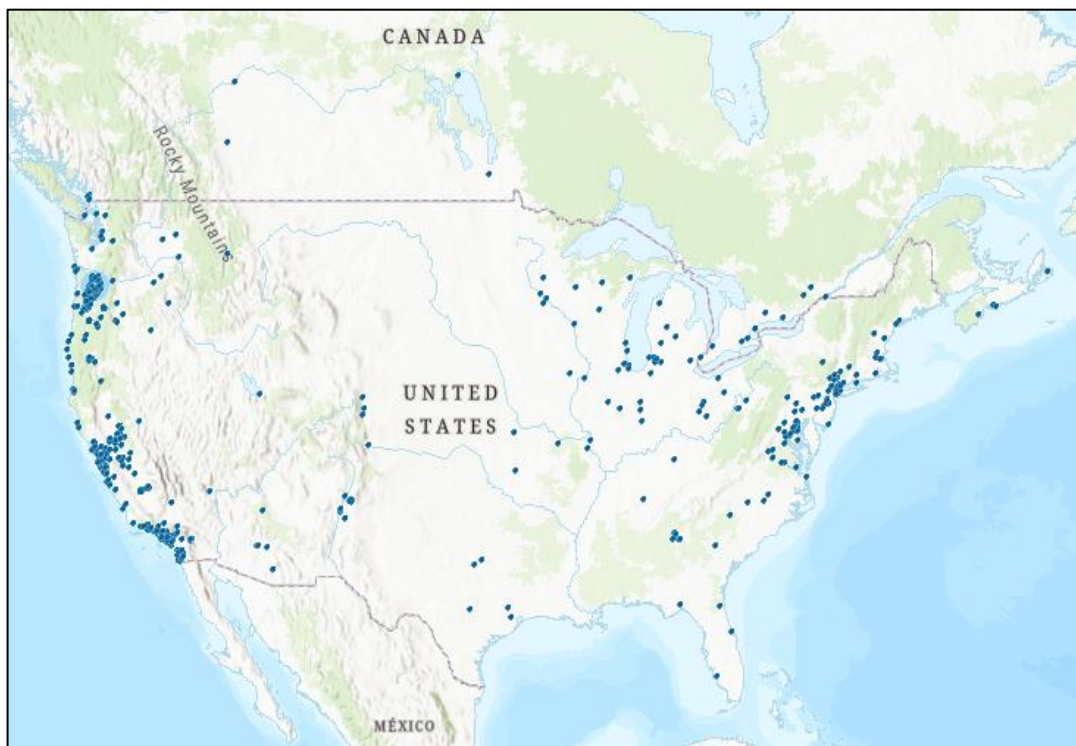
Who took the survey

A total of 1,274 people responded to the main survey. Most responses come from Native Plant Societies (462), including the Native Plant Society of Oregon and the California Native Plant Society, Native Plant Nurseries (190), Professional/Scientific Organizations (174), and 20 Facebook Groups (133 collectively). The respondents' ages are very diverse, with a trend towards older adults. For those who shared their age (1,234), 42% are over 65 years, 49% are 35-64 years, and less than 10% are under 35.

Gardeners who shared their specific location (990) come from a wide distribution across the United States and southern Canada. A total of 1,228 respondents asked to be sent a copy of this report after the survey was completed, 1,180 agreed to allow us to contact them with follow-up questions, and of these 864 provided a valid email address at which we could reach them.



Ages of gardeners who took the survey (1,234 respondents shared this information).



Cities and towns of respondents who shared their location.



Gardening for Nature Survey Results

The climate change survey supplement was sent to 828 respondents (864 less 36 bounced email addresses) from the main survey, and we received 349 responses (a response rate of 42%).

Although we did not ask directly about the background or profession of respondents, several of them (about 13%) volunteered this information in the question comment boxes at least once. From these comments, we learned that at least 57 are Master Gardeners or Naturalists, 55 are landscape architects, designers, and contractors, 42 are nursery professionals, 14 work for Extension Service organizations, 13 identify themselves as biologists or scientists, and 12 are ecologists or restoration practitioners. A few (≤ 5 each) self-identified as Indigenous practitioners, land managers, or educators.

Many gardeners (64%) find inspiration from natural areas (such as this meadow at Camassia Wildlife Preserve in West Linn, Oregon) for the plants they select to put in their gardens.



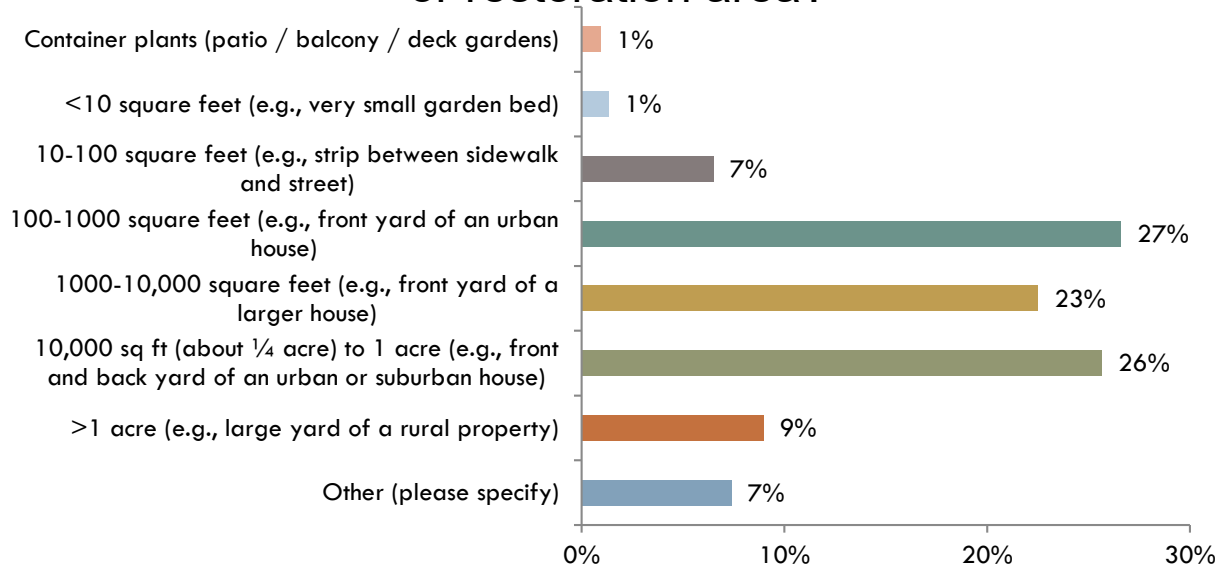
Section 1. Project context

We asked four questions to understand the size and type of properties converted to native plants and wildlife habitat, the motivation of the gardener, and the type of yard or garden transitioned to native plants.

Question 1. What is the approximate size of your garden or restoration area?

Answered: 1,270 / Skipped: 4

What is the approximate size of your garden or restoration area?



Most respondents garden in small to large, mostly urban yards, including areas of 100-1000 square feet (27%), 1000-10,000 square feet (23%), and 10,000 square feet to one acre (26%). Less than 10% of respondents work in larger spaces (>1 acre) or small plots or containers (< 100 square feet). For those who selected Other, most note that the size of their project is scalable and how it is measured depends on their context, constrained by land ownership, or that they are working on multiple nature-gardening projects.

Selected gardener insights for Q1:

"I'm in the city, but have land that abuts Fanno Creek."

"My 5000 [sq ft] office property and my 10,000 square foot home."

"Enclosed courtyard filled with container plants and a narrow garden bed about 20' long by 18" wide."

"250 square feet - back yard. HOA does not allow in front yard."

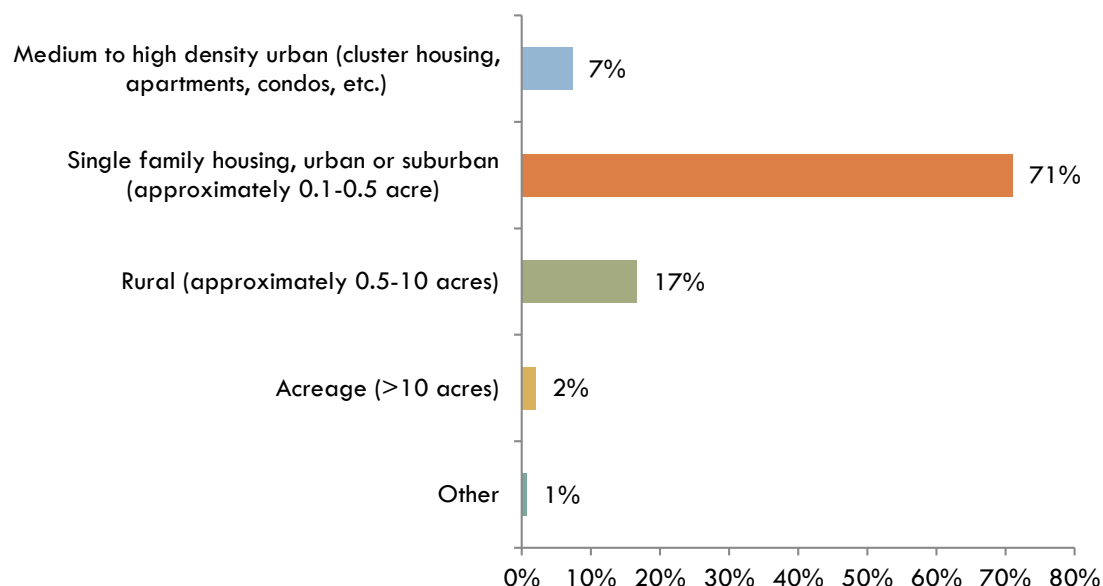
"My naturescaped yard is 5,000 square feet. I am also volunteer steward at Nob Hill Nature Park in St. Helens, OR. It's a 7-acre oak woodland."



Question 2. What is the setting of your garden project?

Answered: 1,270 / Skipped: 4

What is the setting of your garden project?



Of the 1,270 responses to this question, a large majority (71%) chose “Single family housing, urban or suburban (approximately 0.1-0.5 acre),” 17% selected “Rural (approximately 0.5-10 acres),” 7% selected “Medium to high density urban (cluster housing, apartments, condos, etc.),” 2% selected “Acreage (>10 acres),” and 1% chose Other.

About half of those Other selections (with comments) could be reclassified as one of the listed options either by acreage or description of the location (and the figure above includes these reclassified comments and removes them from the Other category). A common reason to select Other was that gardeners’ interpretation of what rural or suburban meant did not always match the suggested acreage range, as illustrated by comments like “suburban but have an acre” or “cross between single family housing and rural. I live in a neighborhood of 1 acre lots.”

Another common reason to select Other was a combination of the listed options, often a small lot abutting a larger wild space or wildland-urban interface (e.g., “backs on to a natural area within urban setting” and “mixed single houses... next to a regional park”) or a gardener who works with multiple different kinds of sites (e.g., “5 acres at the house and 40 at the winery” and “I do it all, though more suburban and rural than urban”).

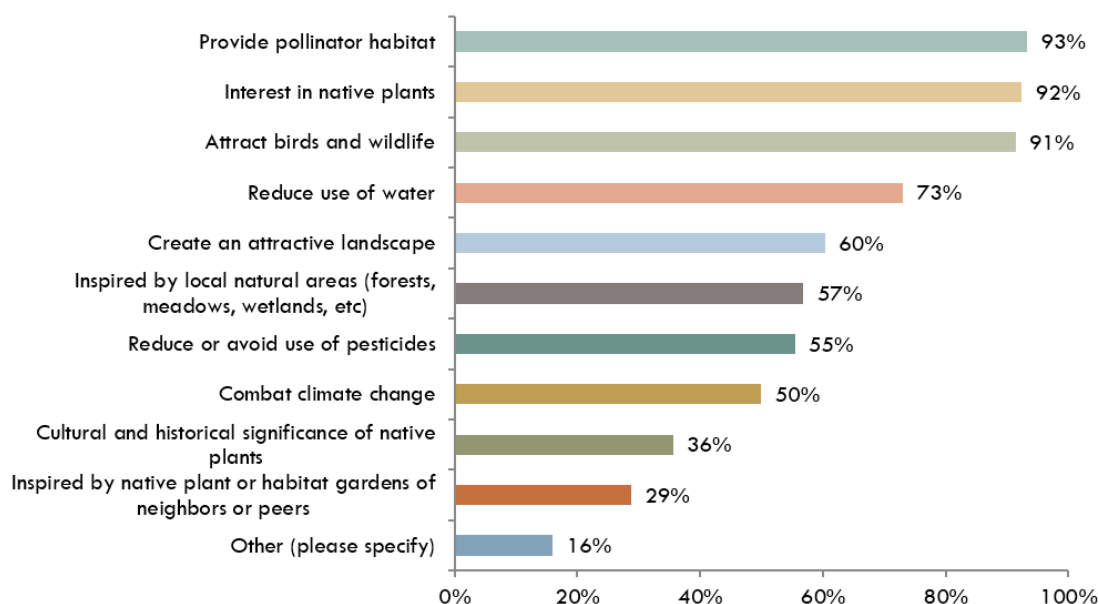


Question 3. What motivated you to plant native plants in your landscape? Select all that apply.

Answered: 1,263 / Skipped: 11

What motivated you to plant native plants in your landscape?

Select all that apply.



Of the 1,263 responses to this question, almost all of them selected “Provide pollinator habitat” (93%), “Interest in native plants” (92%), and “Attract birds and wildlife” (91%). “Reduce use of water” is important to 73% of the gardeners. More than half selected “Create an attractive landscape” (60%), “Inspired by local natural areas” (57%), “Reduce or avoid use of pesticides” (55%), and “Combat climate change” (50%). About a third of gardeners selected “Cultural and historical significance of native plants” and “Inspired by native plant or habitat gardens of neighbors or peers.” There were 212 (17%) who chose Other and provided an additional comment.

The 212 extended comments include additional ecological reasons not listed as an option. Many of these ecological reasons are mentioned only once or a few times, such as “habitat connectivity,” “replace invasives,” or “to support the failing food webs,” but some are mentioned repeatedly in the general categories of increasing biodiversity, wildfire resilience and post-fire recovery (most notably from California residents), land stewardship (flood mitigation, slope stabilization, etc.), and reduced maintenance cost and effort (after establishment: “less work once established,” “lush look with little water,” and “create a garden that needs minimal care as I age”). Twelve of the comments mention Doug Tallamy’s books, particularly *Nature’s Best Hope* and *Bringing Nature*



Home. No other author was mentioned as inspiration this often. Many gardeners are motivated to inspire and teach others.

Selected gardener insights for Q3:

"For me it began with wanting to increase biodiversity and bring life to my own yard."

"Reversing environmental degradation of habitat and increasing local biodiversity."

"Creating a fire resilient landscape."

"Post wildfire to rebuild the soil by planting mostly natives and nurturing a few that came back like coffee berry and Toyon."

"Stabilizing the bank of our river, and providing trees to shade the river water for salmon and other fish."

"Keep water on my property via rain gardens, so it sinks into the ground recharging aquifers."

"In addition to honoring the land, I wanted to grow indigenous foods for people."

"Heal the ecosystem and be part of the ecosystem!"

"Provide beauty, inspiration ... in a fun, whimsy way."

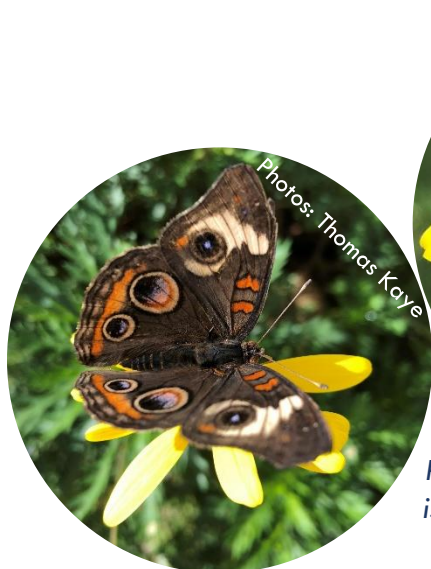
"My interest in natives was originally for water conservation. Later, I wanted to replicate the oak chaparral landscape which is less than 2 miles from my house, just for the sake of curating something hyper-local. Then I read Doug Tallamy's 'Nature's Best Hope' and decided that was the fundamental thing: growing plants as the base of an ecosystem supported by native plants and insects."

"We installed a native plant garden at our church as a memorial to a former pastor who lived to hike and who cared about providing clean water to the overseas poor. We included a meditation circle with a fountain in the center and a bioswale."

"I follow Doug Tallamy's philosophy from Homegrown National Park: if we can save the insects we might have a chance to save ourselves."

"Educate and inspire others who pass by the garden."

"Create a retreat from mechanistic society: 'look up, pay attention, be astonished.' Mary Oliver, American poet."



Providing habitat for pollinators is a primary motivator for native plant gardening.

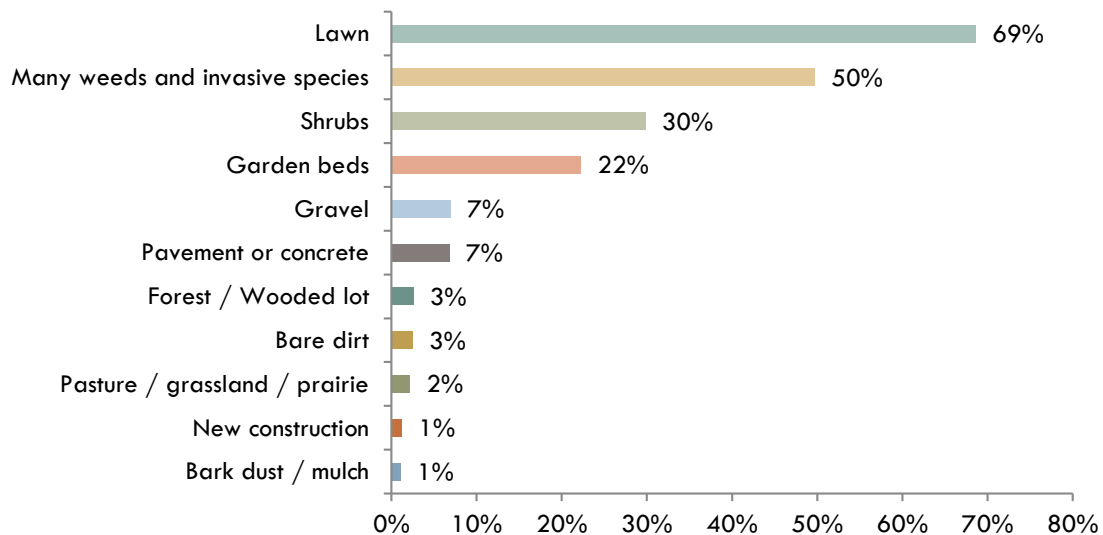


Question 4. What type(s) of landscape or garden did you transition from (or are in the process of transitioning from)? Select all that apply.

Answered: 1,270 / Skipped: 4

What type(s) of landscape or garden did you transition from (or are in the process of transitioning from)?

Select all that apply (with additional categories added from the comments).



The majority of naturescaping projects begin with lawns (69%) and weedy areas (50%) as initial conditions, with a significant additional number starting from landscaped shrubs (30%) or garden beds (22%). A few efforts start with pavement/concrete or graveled areas.

We reclassified 29 of the 220 Other comments into one of the given categories because they restated that category, and the rest into the additional categories of Forest/wooded lot through Bark dust/mulch.

Almost half of the comments describe either a pasture/farm/grassland/prairie (28 comments), bare dirt lot (32), forest/wooded lot (including orchards of citrus, walnut, and filbert, 33), as initial conditions. Several gardeners have transitioned from bark dust/mulch (14) and new construction sites (16). Between 3 and 10 comments each describe sites with unwanted trees (pine, eucalyptus, palm), landscape fabric, fire damage, and porch/deck.



Selected gardener insights for Q4:

"Storm damaged firs."

"I was just going for 'pretty' for a long time. Transitioning over to more natives is a long and expensive process."

"Horrible Brazilian Pepper Tree."

"Artificial turf that I installed many years ago after removing lawn grass due to water needs."

"Eroded cliffs and trash covered land."

"Not all weeds are BAD - don't lump all weeds with invasives - I reduced INVASIVES and let some other native weeds grow!"

"I also seed bomb, weed, and plant native plants among the property flower beds but have no control or say over the use of water or total size, application of chemicals, etc."



*Before and after: A fully
naturescaped garden in an
urban yard.*



Photos: Leah Puhlman



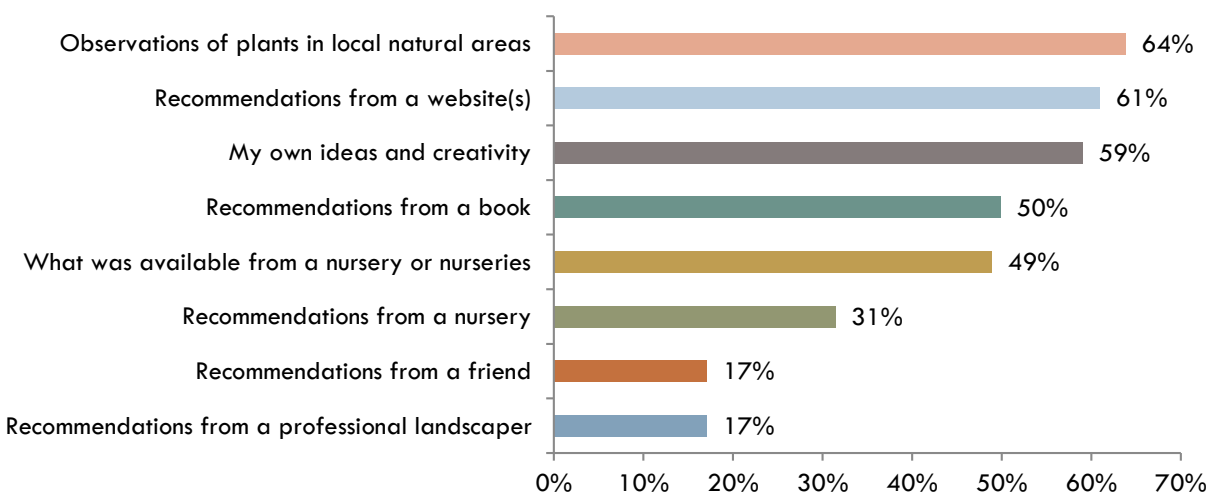
Section 2. Planning and preparation

In this section we asked four questions about planning and preparing the garden site, including plant selection, design approaches, removal of existing vegetation, and soil preparation.

Question 5. What methods did you use to select plants for the garden? Select all that apply.

Answered: 1,245 / Skipped: 29

What methods did you use to select plants for the garden? Select all that apply



Gardeners use a wide array of resources to help them select plants for their naturescaping projects. Although many consult what might be considered traditional resources, such as books, websites, and nursery offerings, a surprising majority (64%) rely on their observations of plants in the context of natural habitats, and follow their own ideas and creativity (59%). Relatively few gardeners follow recommendations from a nursery, friends, or professional landscapers.

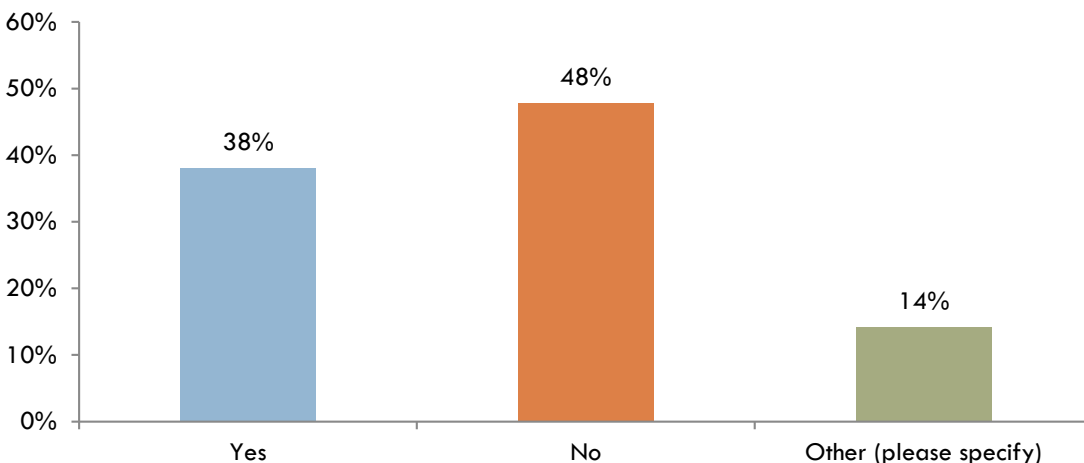
We also asked gardeners to list other methods or their “favorite specific resource(s) (e.g. books, websites, etc.),” and we received an outpouring of 547 comments recommending useful books, websites, programs, etc. We compiled these resources and present them in the Appendix, combined with those suggested in Question 18 (*What resources did you find most helpful?*), in a list of tools to consult for ideas, technical assistance, and inspiration regarding gardening for nature.



Question 6. Did you design or plan your garden on paper or digitally before you began (either on your own or with a consultant)?

Answered: 1,245 / Skipped: 29

Did you design or plan your garden on paper or digitally before you began (either on your own or with a consultant)?

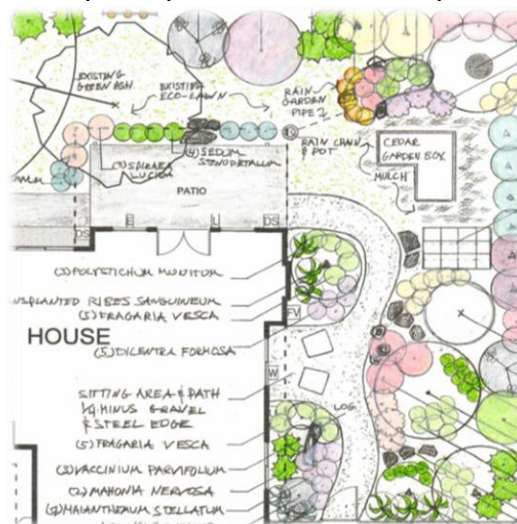


Just under half (48%) of the gardeners responded that they did not do any digital or hand drafting prior to beginning their garden. Over a third (38%) of respondents responded “yes,” indicating that they did some hand drafting or digital design before starting their garden.

Of the 179 gardeners who shared comments, the most common approach (39%) uses a mixture of drafting their designs as well as more informal methods such as choosing plants they like at the nursery, or planning “in my head.” They often report starting with formal drafting methods and then moving to designing more intuitively or on-the-fly. Twelve participants shared that they do some planning on paper or digitally though they consider these efforts as “sketches” or a “rough plan” rather than something more formal. Nine participants referred to designing “in my head,” and perhaps surprisingly (or not!) several of these gardeners mentioned they are landscape designers or architects.

*An excerpt from a drawn plan.
(credit: Peter Katon)*

*38% of gardeners worked from a
written plan.*



Selected gardener insights for Q6:

"I came up with the initial design on paper and have added/modified on the fly since then."

"Sort of. Sometimes I had the yard mapped out ahead of time, but sometimes, while at the plant nursery or at a native plant sale, I just imagined where the plants could go before buying them."

"I did several designs on my own but the reality happened more organically than what I drew."

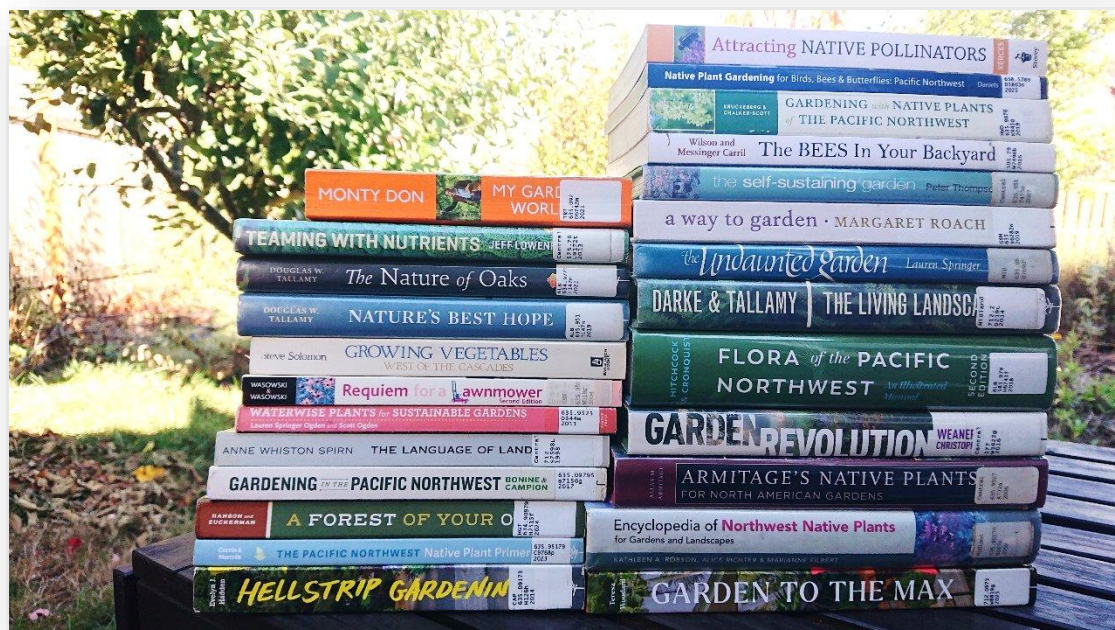
"For some areas, yes, but others have been the 'plant and see what happens' method."

"I did some drawing, but have done landscaping enough that mostly I kept it in my head."

"I am a landscape architect and can see the design in my head."

"Did some rough sketching of a couple areas. Others have evolved."

"I made a loose sketch but didn't really stick to it."



Many gardeners shared their favorite books on native plant gardening, which are listed in the Appendix.



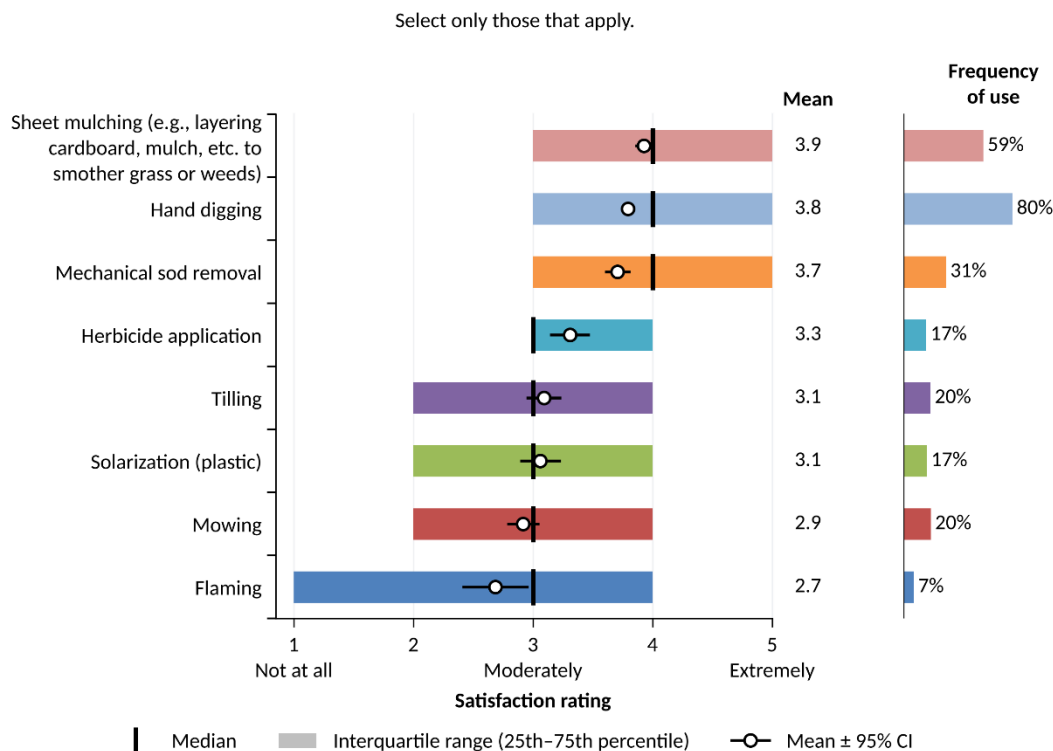
Photo: Sharon Harada



Question 7. What methods did you use to prepare the site and how satisfied were you with them? Select only those that apply.

Answered: 1,245 / Skipped: 29

What methods did you use to prepare the site and how satisfied were you with them?



Responses represent how satisfied gardeners were (left, 1–5 scale) and the percentage who used each site preparation method (right).

The most frequent method of site preparation is hand digging to remove weeds and rocks (80%), and this also results in a high satisfaction score (3.8 on a scale of 1 to 5). Sheet mulching is also widely used (59%) and is the top-rated method (3.9). Almost a third (31%) of gardeners use mechanical sod removal to eliminate lawn grasses and this results in relatively high satisfaction (3.7). Herbicide was used by 17% of gardeners, with an intermediate satisfaction level of 3.3. Tilling, solarization (covering in plastic for several months to a few years), mowing, and flaming are used by 7-20% of gardeners with relatively low satisfaction scores ranging from 2.7 to 3.1.

We received comments from 212 gardeners who responded to this question. Many (over 40%) mention the benefits of hand digging and weeding, but also that the amount of labor required is sometimes prohibitive, suggesting that the scale of the project and beginning conditions can influence the method that works best. Gardeners also mention particularly difficult non-native weeds that they struggled to control, including Bermuda grass (particularly from gardeners in California). About 10% of the comments mention the use of herbicide as an effective tool but frequently couched as a last resort. Many comments also reaffirm the utility of methods like



mulching (often with wood chips), sheet mulching with cardboard, solarization, and flaming or other heat treatments such as steam or boiling water. Several gardeners began their project after construction or major soil disturbance left bare areas in their yard. Finally, some gardeners mention leveraging drought or holding back irrigation as a method to kill or weaken existing vegetation prior to replacing with native plants.

Selected gardener insights for Q7:

"Context-dependent. Sheet mulching was great on the lawn, but less useful with invasive vines. I found solarizing better on steep slopes and with woody vines. Just beginning to look into painting on herbicides for particularly nasty invasives. I've had good success hand-digging after other methods to control the stragglers, but it's labor intensive."

"Removal by hand was a must. Best way to maintain the health of the soil. I have consulted with folks on how to convert a manicured landscape into a native yard: removal of grass first by hand and then laid down cardboard. After a winter of just cardboard we brought in mushroom inoculated soil. Then planted my native plants. Works fabulously."

"Learned the hard way that hand digging/tilling the soil seems to stir up more weeds. And native plants don't require a lot of disturbed/amended soil."

"We manually / by hand have taken out over half of our property's grass/sod and have hand-planted everything."

"We brought in soil to create mounds in the yard."

"Halting irrigation and hand weeding primarily!"

"9-12 inches or more of thick wood chip mulch. No cardboard used. Incredibly beneficial for the soil - rich, moist, worm-laden."

"Was a little sad to use so much herbicide, but it worked well to kill the lawn while preserving the soil."

"I don't like solarization, but I love sheet mulching and find it to be the most effective relative to the amount of energy expended. Sheet mulching with heavy repeated applications of chips is the only way to keep larger landscapes under control until your groundcovers grow together."

"All done by hand without motorized equipment, only hand tools. A lot of time and hard work BUT I got to know my soil well, which plants would do well where, and what to mix in to improve areas."



Sheet mulching with cardboard layered under wood chips or mulch is a popular and effective (highest satisfaction rating of 3.9) method of converting lawn to garden.

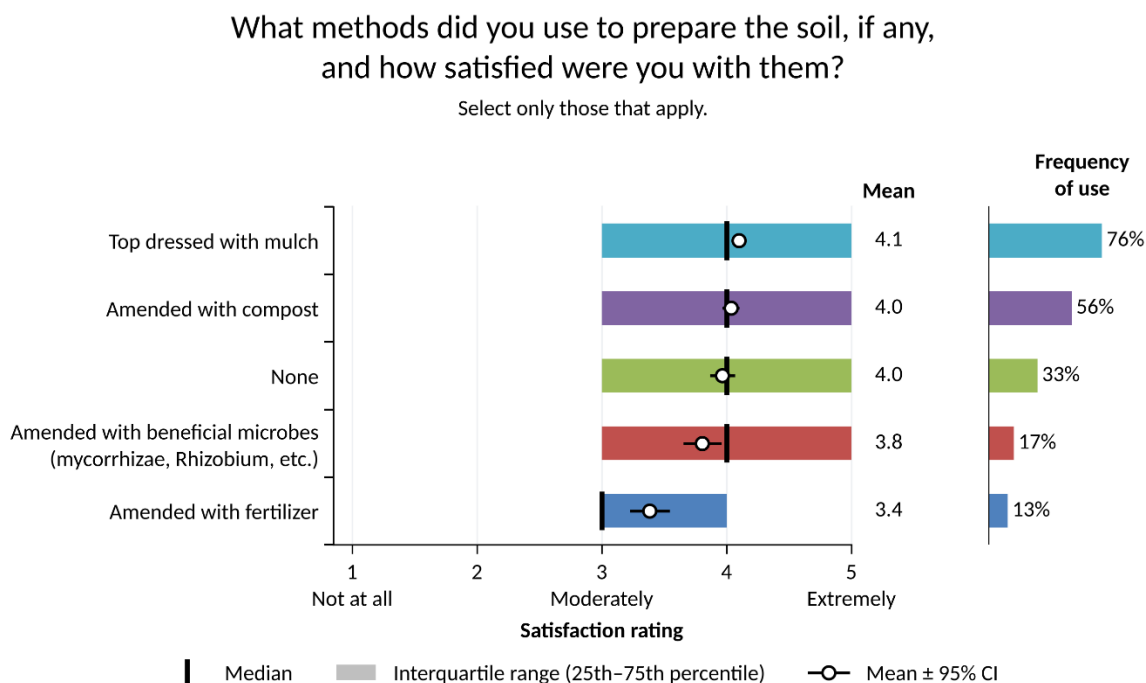


Photos: Sharon Harada



Question 8. What methods did you use to prepare the soil, if any, and how satisfied were you with them? Select only those that apply.

Answered: 1,213 / Skipped: 61



Responses represent how satisfied gardeners were (left, 1–5 scale) and the percentage who used each soil preparation method (right).

More than three quarters of gardeners top-dress with mulch, and over half amend their soils with compost. Satisfaction scores for both approaches are very high (≥ 4), indicating these are widespread and effective strategies. Amendment with beneficial microbes, like mycorrhizae, is less commonly employed (17% of gardeners), but satisfaction with this approach is also relatively high (3.8). Only about one eighth of gardeners apply fertilizer, and this method is the lowest ranked (3.4) of those listed. About a third of gardeners surveyed do not use any soil amendments, mostly because their soils or plants do not need amendments, and those gardeners are also very satisfied (~ 4) with this approach.

The most frequent theme of the 214 comments reiterates the use of compost and mulching, particularly mulching with wood chips, often obtained for free from local sources. Wood chip proponents explain that the chips are spread several inches deep, either alone or over a layer of cardboard, and are sometimes worked into the top several inches of soil. Many gardeners note that they top mulch with leaves, often those that fall on site. Importing topsoil to gardens installed on disturbed sites, such as after construction, is frequently mentioned, as is adding gravel or sand to improve drainage on poorly drained silty or clay soils. A few gardeners shared their success with adding manure to improve soil nutrition and organic content, cover cropping, adding biochar with compost, and using Hugelkultur (layering logs, branches, and organic debris to rot



underneath garden soil) to build organic matter. A substantial number of comments provide the counterpoint that in some contexts, adding no soil amendments may be best for native plants, and that amending the soil has the potential to encourage non-native plants and weeds with negative consequences for plant establishment and habitat value.

Selected gardener insights for Q8:

"Mulch is mainly for weed suppression. It's all an experiment but in my experience natives don't need amended soil, and extra nutrients only encourage weeds."

"Mixed in sand when the plants required good drainage."

"The soil is already acidic which suits native plants in my region and I have an invasive species problem so I am trying not to improve soil conditions and make it potentially easier on them."

"I also mixed bags of gravel into the silty soil in small areas for plants that needed well-drained soil such as Penstemons and it worked great!"

"I started mostly with clay and fill. As I planted trees, shrubs and perennials I amended the hole with root stimulators, a small amount of a soil-compost mix along with the existing soil. I watered well at planting and added a small amount of fertilizer about a few weeks later."

"Transformed huge lawns to gardens mostly with free wood chips applied about 8 inches deep gradually over 30 years."

"I have also done nothing & it worked fairly well if the plant was well chosen for the site and watered the first summer."

"Several inches of fresh tree chips are the only mulch that really helped."

"Dug in moderate amounts of grit (mostly coarse builders sand, pea gravel and squeegee) along with compost in areas to be sown with seeds (native western/southwestern meadow mix) to modify the compacted and high clay content of the soil once the sod was removed. Planting islands and sites for added trees also treated with this mix."

"I add biochar to my compost."

A hammock invites the gardener to rest and enjoy this naturescaped garden.

Nearly half of all respondents describe their native plant garden as a direct source of happiness, peace, mental health, and personal fulfillment.



Photo: Peter Katon



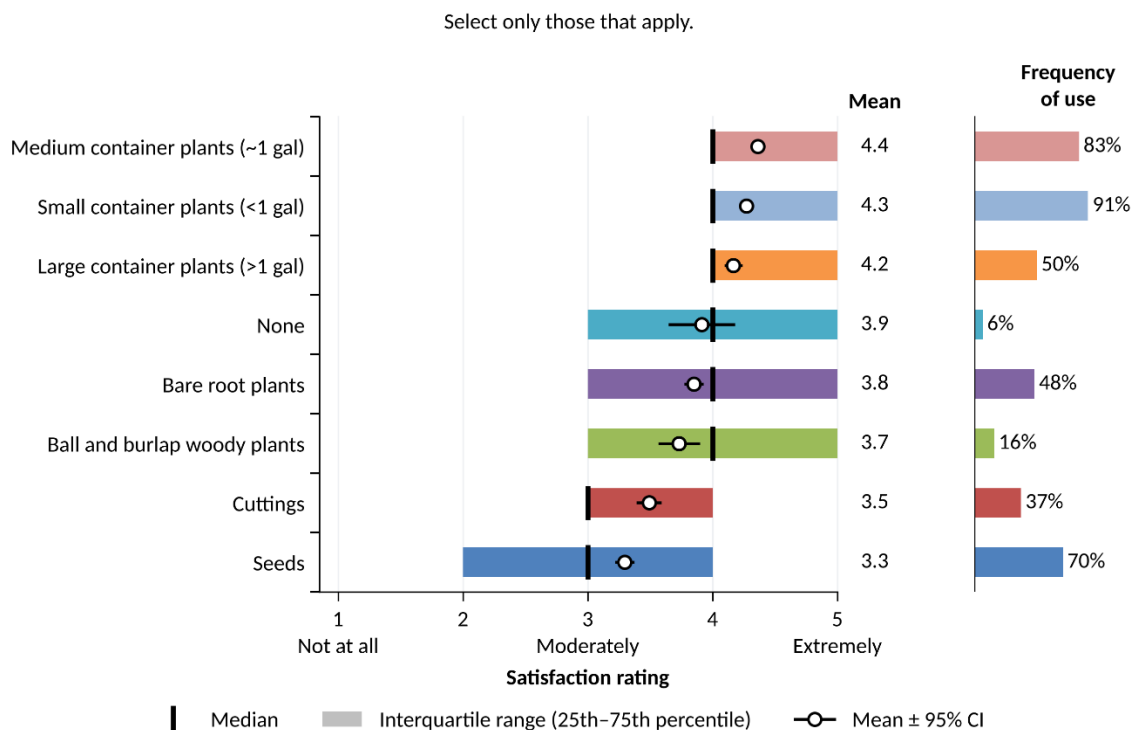
Section 3. Installation

We asked three questions about the installation process, including types of plant materials in use, incorporation of habitat structures, and water features.

Question 9. What types of plants did you use, and how satisfied were you with them? Select only those that apply.

Answered: 1,266 / Skipped: 8

What types of plants did you use, and how satisfied were you with them?



Responses represent how satisfied gardeners were (left, 1–5 scale) and the percentage who used each plant size (right).

The most popular plant sizes are small (<1 gal, 91%) and medium-size (~1 gal, 83% of gardeners) container plants, and use of these gives the greatest satisfaction scores overall (4.3–4.4 out of 5). Large (>1 gal) container plants are less frequently used but also have very high satisfaction scores (4.2). Although used by over 70% of gardeners, seeds yield the lowest satisfaction (3.3) among gardeners. A few gardeners (6%) did not plant at all but with relatively high satisfaction (3.9 out of 5), presumably because their garden began as native vegetation or was surrounded by it.

Comments (151) vary widely, with many gardeners noting that they source their native plants from salvage, wild collection, or at-home cultivation. Some gardeners note that bulbs of native species work well. Also, success varies with species and damage from wildlife, and satisfaction is



affected by understanding how large plants eventually become and their preferred site conditions (e.g., sun vs. shade, moisture needs).

Selected gardener insights for Q9:

"Most trees, shrubs and perennials did well. Some grew larger than the plant tags showed."

"Dig bare root plants myself, during dormant season, plant usually early spring. Timing is critical."

"I often forget what I plant. I waste a LOT of money on gardening only to have plants die, but it brings me joy. I have also sourced plants from work-related native plant grow out surpluses."

"Got a permit and dug up ferns and salal from the state forest. A lot of other native plants came too like coltsfoot."

"I have found natives have a higher failure rate than my other plants, but I keep trying and am overall moving the needle."

"Success varied by species; some took to transplanting better than others. Success also tempered due to rabbits and deer eating transplants."

"Lots of propagation of my own plants at this point."

"Bulbs too!"

"Many plants were volunteers and I moved them around where I wanted them until I had a yard full."

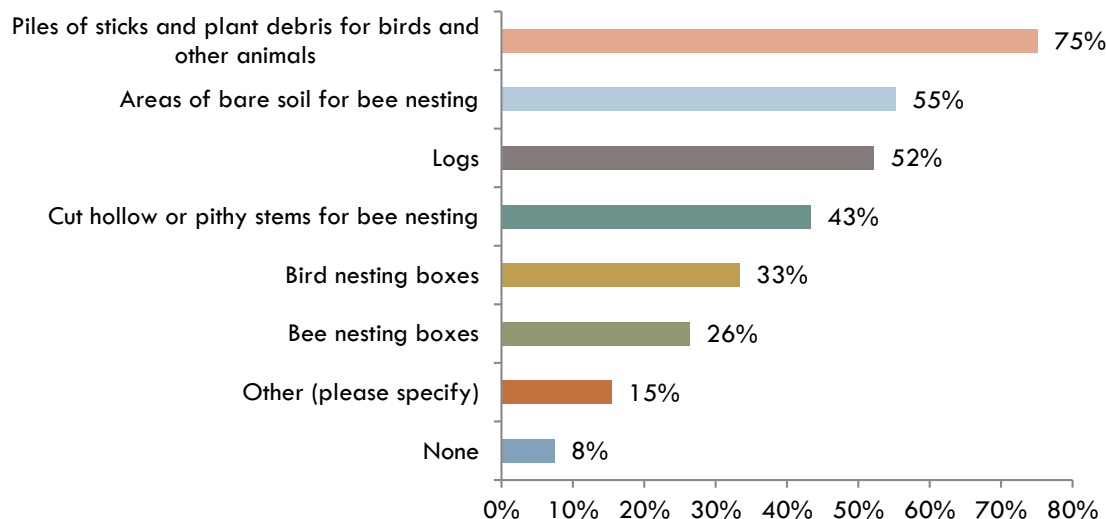
Native plant gardeners use a wide variety of container plant sizes. Those in the mid-range are used most and with the greatest satisfaction.



Question 10. Did you provide additional pollinator or wildlife habitat? Select those that apply.

Answered: 1,227 / Skipped: 47

Did you provide additional pollinator or wildlife habitat?
Select those that apply.



Many gardeners use additional methods to provide pollinator or wildlife habitat. Three quarters of gardeners leave piles of sticks and other plant debris for birds and other animals, and over half provide areas of bare soil for ground-nesting bees, or logs as additional habitat structure. Many gardeners also include cut hollow or pithy stems for bee nesting, bird boxes, or bee nesting boxes.

A total of 190 gardeners also left comments under Other. The most common additional habitat feature mentioned is piles of leaves and leaf litter (and standing sticks) for birds and invertebrates. Rock piles as habitat for reptiles and other animals are also frequently used, as is

Selected gardener insights for Q10:

"We don't 'tidy up' in the fall; leave the hollow/pithy stems as they are. And the tons of leaves."

"I leave my native plants up through the winter. Seeds. Habitat. Etc. I leave leaves in beds."

"Made toad-abodes and reptile refuge out of rocks and broken pottery."

"Never cut back plants in fall - wait until late spring for cleanup."

"Downed logs, snags, bare soil, leaf litter, and stems are left to overwinter."

"I also put a pile of sand out."

"Rocks and boulders for reptile habitat."



leaving snags/dead trees. Some comment that they have placed bat boxes or left logs on the ground.



Photo: Thomas Kaye

Bee nesting boxes (top and middle) are tool to support pollinators used by 26% of gardeners.



Photo: Thomas Kaye

Logs (bottom) are important habitat for various creatures including reptiles, amphibians, and pollinators.



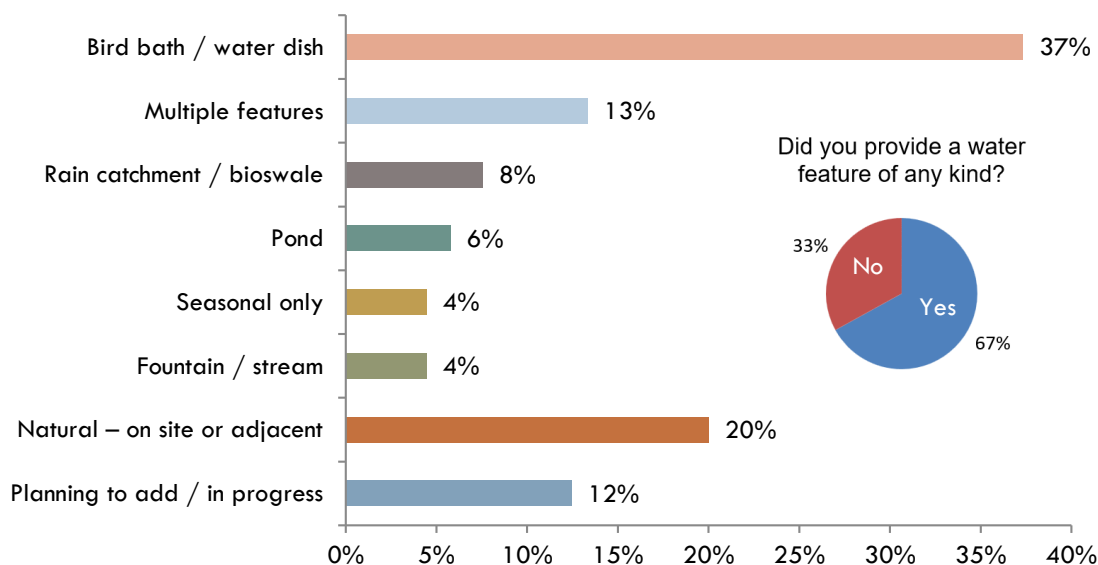
Photo: Peter Katon



Question 11. Did you provide a water feature of any kind?

Answered: 1,260 / Skipped: 14

Types of water features provided



Inset shows the percentage of respondents answering yes or no; the main figure indicates the frequency of use of specific water features (as indicated in 251 comments).

A total of 67% of gardeners indicate that they provide a water feature of some kind. Of those that do, comments from 237 reveal the wide diversity of water features they use. The most common water feature (37%) is a bird bath or water dish of some kind. Less than 10% of gardeners who commented each provide a type of rain catchment or bioswale, pond, or fountain/stream; 13% provide more than one type of water feature. One fifth of gardeners have gardens with existing natural water features either on site or adjacent to their property. Finally, about 12% are planning to add a water feature or are in the process of doing so.

Selected gardener insights for Q11:

"Bird baths, stock tank with small fish."

"A Bird bath and a bee bath with rocks in it."

"Shallow bowl with water for insects/bees during summer months."

"A small rain garden collects the runoff from the back of my house roof. With average rainfall it collects around 12,000 gallons a year."

"We freed a seasonal stream from invasive species."

"Three fountains on property, recently built a water storage pond nearby should attract waterfowl, etc."

"I do not have a water feature but there is a stream and marsh across the fence on neighbors property."

"Worried about mosquito breeding."



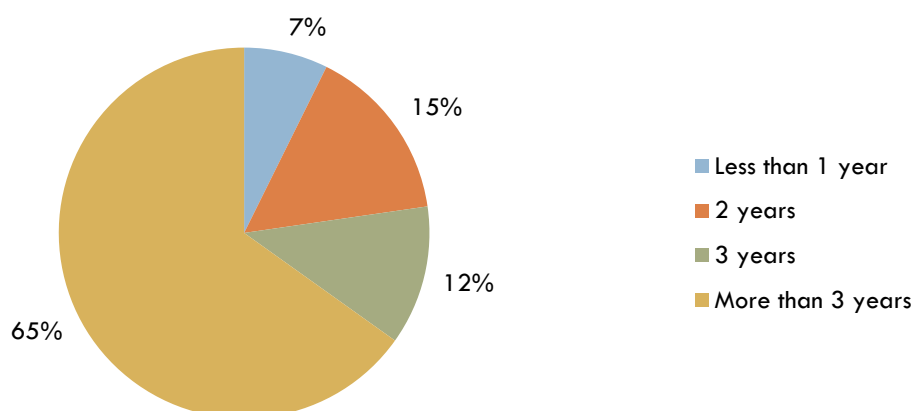
Section 4. Looking back

Here we asked gardeners eight questions to reflect on their projects and tell us how many years they have committed to the effort, how long it took to attract pollinators and wildlife, the feedback they received from neighbors, their overall satisfaction, what they would change if they were to start again, barriers they face, the types of information sources they found most useful, and what they would like to see more of.

Question 12. How long did you work (or have you worked, if ongoing) on your project so far?

Answered: 1,268 / Skipped: 6

How long did you work (or have you worked, if ongoing) on your project so far?



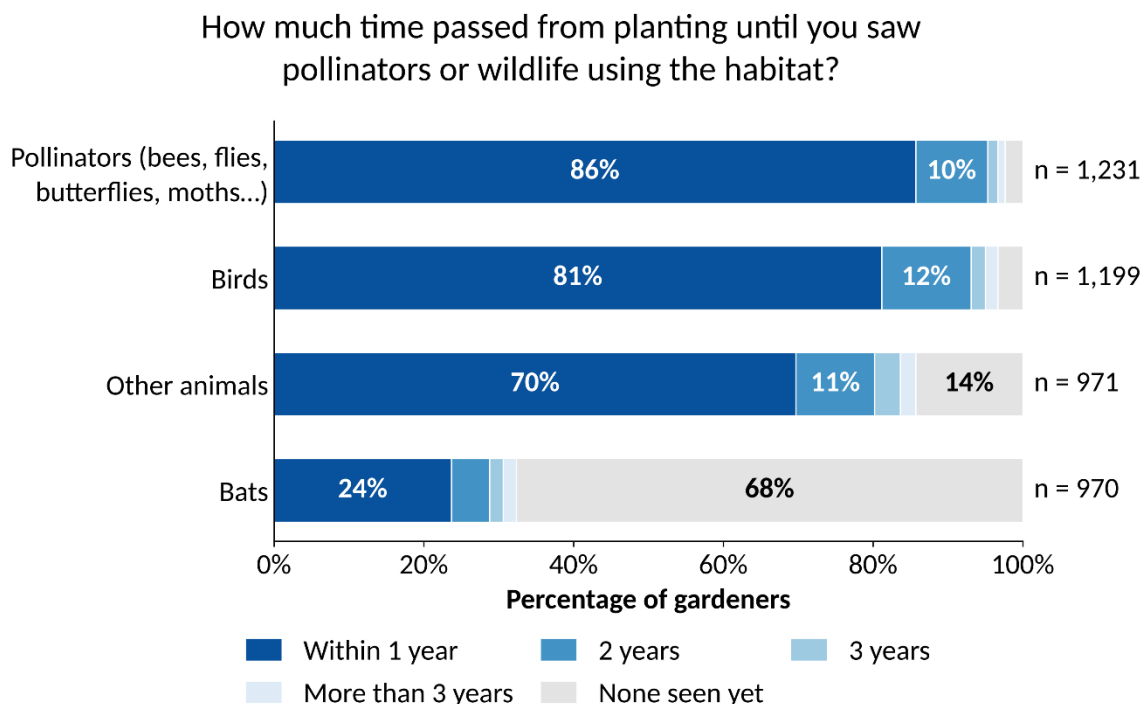
Almost two thirds (65%) of respondents have worked on their garden project for over three years, indicating strong experience on average with the process of converting landscaping to native plant habitat. A total of 12% have worked on their gardens for three years, 15% for two years, and 7% for one year or less.

No open-ended comments were solicited for this question.



Question 13. How much time passed from planting until you saw pollinators or wildlife using the habitat?

Answered: 1,236 / Skipped: 38



Pollinators and wildlife rapidly begin using native plant gardens after implementation. The majority (>80%) of gardeners noted pollinators and birds using their gardens within one year of planting, and over 95% within three years. Bats were less often reported, with only 32% observing them within three years of planting. Observations of other animals are very frequent within one year (70%) and after three years (86%).

A total of 271 gardeners provided additional comments under this question. Several comment that the abundance of pollinators and wildlife has increased since they planted their native garden. Others note that wildlife were already present before they installed native habitat, and that they are uncertain if their garden has altered wildlife abundance. In some cases, gardeners express concern that there has been an overall decline in animals where they live, despite their plantings. Many gardeners listed specific animals they have seen in their native plant gardens; the most often noted are deer, squirrels, foxes, raccoons, opossums, rabbits, skunks, and snakes. Some wildlife, particularly deer, are noted as consuming plants and flowers and inhibiting the establishment or growth of plants.



Selected gardener insights for Q13:

"The spring following the fall seeding was a miracle. The bee activity was like being at JFK."

"We saw an immediate increase in fireflies."

"First year saw regular visits of pheasants and deer. Second year had a fox den. Third year (this year) had muskrats moving in and finally had fireflies."

"We've definitely seen an increase in native bees."

"The insects and birds have always been here since I started plantings other than lawn, there are just more now."

"Deer come in and eat any new blooms, plough some new things to the ground. Very difficult to get several natives started with deer."

"It took three years to remove the non-natives. Wildlife came during this transition and immediately thereafter."

"I live near a conifer forest so many of the birds and bats were here before I put effort into the landscape. The pollinators are more noticeable though for sure. Especially bumblebees, small bees, and wasps."



Photo: Sarah Collette

Cedar Waxwings and a Black-headed Grosbeak visiting a water feature in a native plant garden.

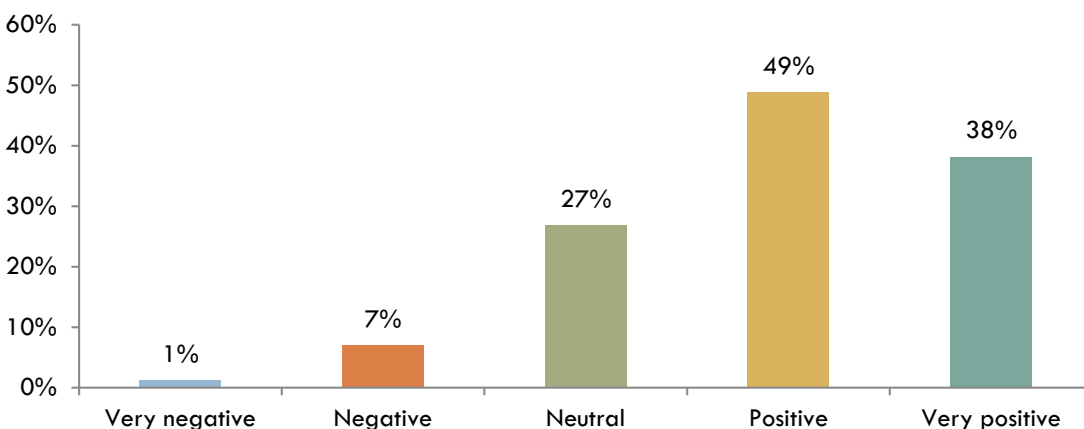
Over 80% of gardeners saw birds visiting within the first year.



Question 14. How would you characterize comments or feedback from your neighbors or passersby about the project, if any? Select all that apply.

Answered: 1,163 / Skipped: 111

How would you characterize comments or feedback from your neighbors or passersby about the project, if any?
Select all that apply.



More than 85% of gardeners share that feedback about their garden from neighbors or passersby is positive or very positive. Just over a quarter of gardeners report neutral responses and 7% report negative remarks. Only 1% report very negative responses.

314 respondents shared comments about responses to their garden. Gardeners share a variety of positive responses from passersby or neighbors; these range from curiosity to a contagion effect inspiring others to start down their own path of gardening with native plants. Inspiring neighbors to connect for seed and plant sharing is also commonly mentioned. The importance of signage is mentioned several times; gardeners perceive that interpretive signage influences neighbors to be more accepting and positive about their gardening practices. Many gardeners also note that flowering plants are a big hit for passersby and garner positive attention. The most cited criticism relates to passersby experiencing the garden as messy, wild, or untended.

Wildflower displays such as these woolly sunflowers attract positive attention from people and pollinators.



Selected gardener insights for Q14:

"Some people were just really curious about why I'd do it, and my yard certifications."

"Curious but no negative comments. One neighbor has incorporated more natives into her yard and we trade plants often."

"The planting strip next to sidewalk creates a lot of curiosity from passersby."

"Some people love it and I have offered seeds, some people call me the weirdo on the block but no one complains in spring when there is a wildflower explosion."

"I use a lot of different blooms and bloom times, and people always stop to look and say admiring things. My neighbors next-door have a similar approach."

"The comments became positive after I put up a sign 'Native Plants Live Here'."

"I was first to eliminate the lawn, others have followed."

"I was the first person in our association that removed their lawn and replaced it with native plants. The people in my association did not understand it, nor were they happy. Now, however, many in the association have removed their lawn and put in succulents."

"People love visiting my garden and often stop to chat. I always offer advice, cuttings, seeds and produce, if available. (I have a mixed use garden.)"

"A lot of head-scratching by neighbors when I was building my garden. Now, they seem more tolerant of it. One neighbor asked me for some of my native plants to put in his yard. I gave him some hummingbird sage that he installed in his yard yesterday. It only took 10 years!"

"We have cultivated a huge quantity of relationships with our neighbors due to being in the garden regularly. Also have attracted other plant enthusiasts and have shared the abundance of happy species freely with our community. Even had a painter come and spend several months using our garden as inspiration for a series of paintings. Listed for some thousands of dollars on a gallery site."

"I planted a hedgerow between my front yard and the street. It stands out as unusual in the suburban Washington county neighborhood and many view it as just an untended yard."

"Both positive and negative. Once the HOA issued us a letter of complaint about having 'weeds' but when we asked them to show us where the weeds were, they rescinded the complaint."

"Any and all plants/trees were viewed as messy and unkempt by neighbors who prefer concrete over greenery."

"Some like all the flowers in our front yard, but some think it looks messy when they die and we leave them standing so they can drop seed and birds can eat some."



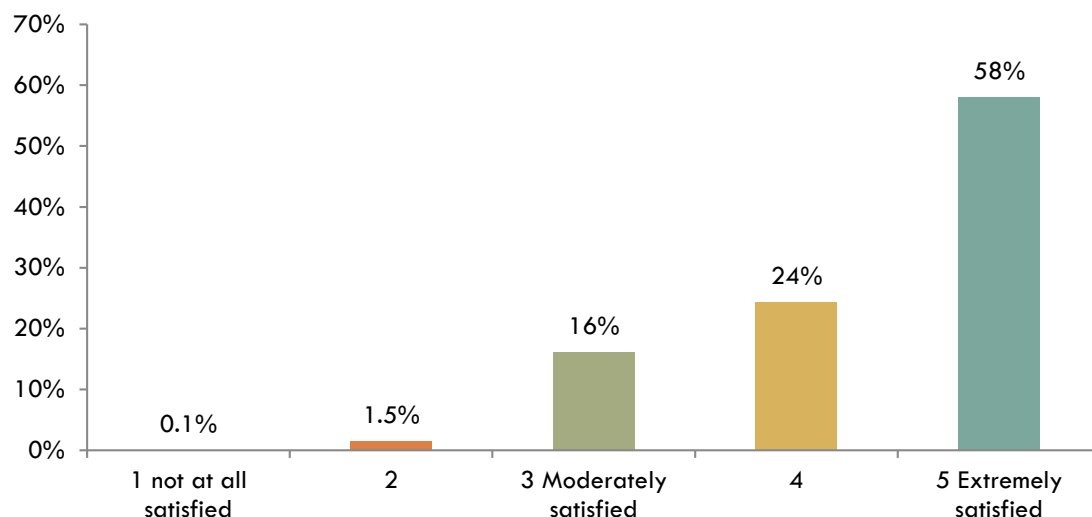
Wildflower displays attract pollinators and beneficial insects, and engage passersby. Photos: Peter Katon



Question 15. Overall, how satisfied were you with naturescaping your garden?

Answered: 1,265 / Skipped: 9

Overall, how satisfied were you with
naturescaping your garden?



The majority of gardeners (58%) answered Extremely Satisfied to this question. An additional 24% of gardeners provided an answer between moderate and extremely satisfied. Less than 2% of participants expressed limited satisfaction or being not satisfied at all.

A total of 303 people left additional comments. The most common sentiment, shared by 26 gardeners, is that the garden is a work in progress, and that they are constantly learning and adapting. Satisfaction from observing pollinators, birds, and wildlife using the garden was the next most frequent comment (17). Some (11) describe major positive effects on their well-being, such as bringing meaning to their lives, improving mental health, and inspiring a career change to pursue work related to their passion for native plants and ecology.

Gardeners also shared that it is not all roses out there: the burden of weeding (13 comments), need for more design knowledge or support from professional designers (9), often heavy work involved (6), limited results with plant establishment (4), and challenges related to deer and other wildlife foraging or otherwise hindering their plantings (4). A few others shared that it looks messy or that native plants have grown too successfully and outgrown the gardener's intended boundaries.



Selected gardener insights for Q15:

"It is an ongoing project, adjusting things as my knowledge increases through observation of what works and what doesn't. It is very satisfying."

"Working in the yard is very rewarding: the increase in bees/insects/birds is real and so are the mental health benefits."

"More than any one investment in our space this process has returned value, both spiritual and material."

"New things pop up on their own every year. I go on safari in my yard everyday to see native bees, over 15 species of native bees since I started switching to native plants. Also butterflies, moths, wasps, flies, beetles."

"I started with 'how can I save on my water bill but still have something attractive' to creating a space that is extremely important to me and has totally transformed my relationship with nature."

"I still have to do lots of weeding and some of the plants are getting too large for the area they are 'assigned' to."

"Upkeep is less than a lawn once established and therapeutic, sooo many wild critters outside my windows/patio all year round, gorgeous cut flowers, doing good for the planet"

"I put in a lot of aggressive native plants in that I wish I hadn't--not all natives are great for gardens."

"I am not a designer. I planted and transplanted things wherever they would fit and have appropriate conditions. My yard does not look 'designed.' It looks a little messy and unbalanced. I would love to get professional design advice."

"Deer are my biggest dilemma because I am happy to grow things for them but they can quickly mow down or the bucks shred my investment. That's what it's ultimately there for, but it becomes too expensive to fence everything off while it establishes and I can't afford to keep replacing, so I do end up with more non-natives that they don't prefer but other native wildlife benefit from. Also voles keep girdling my trees."

"It was frustrating that 1/2 the plants we bought or more never took root and died."



Photo: Evelyn Sherr

A Varied Thrush at a bird bath during a December snowstorm.

Bird baths are the most popular water feature used to attract wildlife.

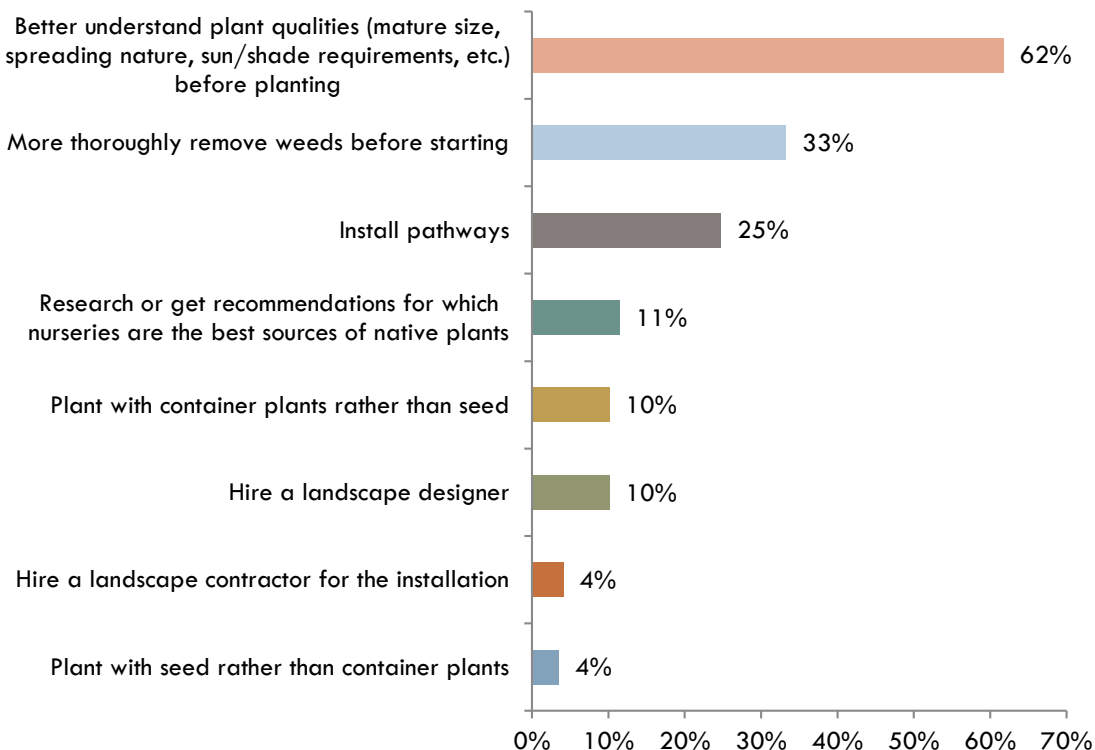


**Question 16. If you were to start your project over from scratch, what would you change?
Select from these choices and/or supply your own answer.**

Answered: 881 / Skipped: 393

If you were to start your project over from scratch, what would you change?

Select from these choices and/or supply your own answer.



The most common (62%) piece of advice gardeners have is to better understand the qualities and requirements of the plants being put in the ground, such as the size of plants at maturity, how much they spread, light and moisture requirements, etc., to avoid having to move or remove plants later. A third of gardeners would remove weeds more thoroughly before starting or at the early stages of the project. One quarter note that in hindsight, installing paths would have been easier at the outset. Eleven percent lament that they do not have more information on nurseries that carry native plants. A few gardeners also wish they hired a landscape designer (10%) or landscape contractor for installation (4%). Regarding plant material, 10% prefer container plants over seeds, and 4% promote seeds over containers.



We received 473 open-ended comments in response to this question. Over 70 of those note that they are happy with their process and would not change it. About 50 gardeners reiterate the benefits of advance planning and aggressive weed removal before starting, and about 50 would have done more soil preparation. Several gardeners also regret not understanding mature plant sizes and requirements. Several would install irrigation earlier and plant more densely to cover the ground faster. Some gardeners wish they had started growing their own plants sooner and used local ecotypes.

A garden tour of Cathedral Park Nature Patch, one of over a dozen parks in Portland, Oregon that feature naturescaped areas and community engagement opportunities.

60% of gardeners would like more demonstration gardens available and 47% would like more tours.



Selected gardener insights for Q16:

"I am satisfied with the process and the end result!"

"Put in some sort of irrigation - hand watering is a pain."

"I didn't do good research when I first started so I have some plants that are in the wrong places, i.e. too close to the house or too close to the fence for the size of the mature plants."

"A new development here in the west is to consider wildfires in planting. Now all the plantings close to the house are supposed to be moved!"

"I would have gone with local ecotype native plants from day one; I'd also have gotten more involved in growing from seed myself."

"I wish I had been younger and had more time to eventually enjoy the garden."

"The project covered too much land when we started, and it was hard to keep up."

"I would have used herbicides sooner on the invasives so I could move the project along faster."

"Gather images of inspiring plants and gardens. Diagram the site's important features. Develop an informal plan. Group plants that are commonly found in association together."

"Don't buy plants in the middle of summer. Most died."

"Everyone made it sound easy but the plants are much more site particular than regular garden plants. I know how to work with the plants now (10 years later!) but I still wouldn't call it easy."

"Though I have worked with a landscape designer some over the five years since I started, I might have relied on one sooner and found someone with more passion for native plants."

"I wouldn't change a thing. Nature scaping isn't something you do once and then you're done."

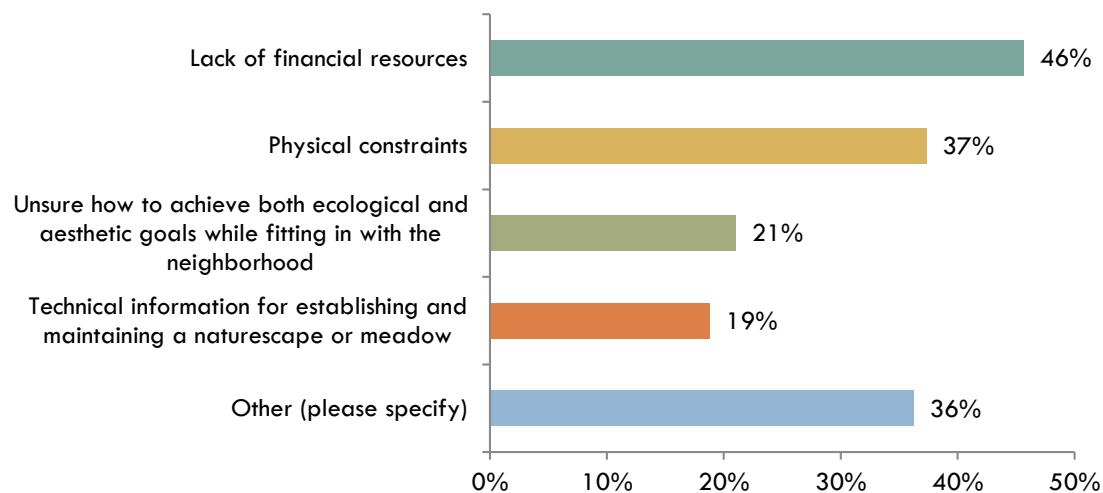


Question 17. What barriers did you face to begin your project? Select all that apply.

Answered: 1,091 / Skipped: 183

What barriers did you face to begin your project?

Select all that apply.



Of the categories provided to gardeners in this question, lack of financial resources is the most frequently selected factor limiting their projects (46%), followed by the physical constraints associated with manual labor (37%). About one fifth of gardeners are unsure how to achieve their ecological and aesthetic goals while meeting neighbors' expectations. Another 19% are limited by a lack of technical information about establishing and maintaining their native plant garden.

Other was selected by 36% of gardeners, who explained a variety of barriers through 395 open-ended comments. The most frequently cited barriers are finding enough time to work on their gardens (20% of comments) and the physical effort needed, especially as gardeners age (14%). The learning curve to succeed as well as the availability of native plants from nurseries are also frequently mentioned barriers that push many home gardeners into learn-as-you-go and do-it-yourself mindsets. Additional barriers listed include limitations from homeowner's associations, local regulations, and neighbors (and family members), non-native species spread and competition (preexisting or new), cost and limited financial resources (causing some gardeners to go slower than anticipated), wildlife predation (e.g., deer, gophers), difficulty finding qualified designers and contractors, access to sufficient water, and soil quality.



Selected gardener insights for Q17:

"Local nurseries having a lack of native plants. Lack of specific online resources for our zone."

"I wish I could hire a crew but it's just me, slowly but surely."

"Using all native plants was a leap of faith. Time and energy to accomplish the project was a limiting factor."

"Struggling to find the right landscaper to help me."

"Not enough time in the day."

"HOA and conservative neighbors who didn't agree with aesthetics."

"Physically it is too difficult for me to do the hard work."

"Deer and rabbit herbivory. This cannot be underestimated."

"Availability and affordability of native plants, as well as quality of available native plant species."

"Lack of time with a busy schedule. To lessen financial costs, we did it over a two year period."

"Lack of insight into what well established plants look like in real life."

"It's a lot of physical (or financial if you pay someone) work, and time in researching."

"My neighbor doesn't like bugs."



Photo: Peter Katon

One quarter of gardeners would plan for pathways if they were to start again.

Leaving piles of sticks and plant debris ("leave the leaves") was favored by 75% of gardeners to support birds and other animals.

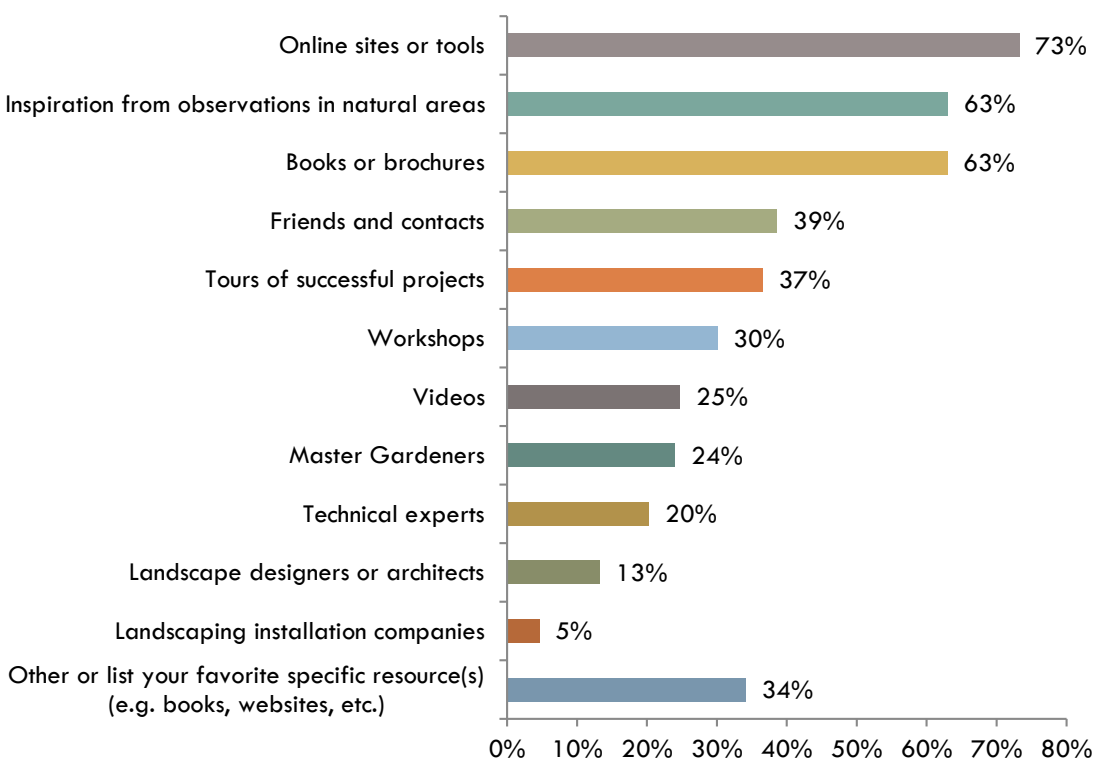


Question 18. What resources did you find most helpful? Select all that apply.

Answered: 1,262 / Skipped: 12

What resources did you find most helpful?

Select all that apply.



The majority of gardeners indicated that the most helpful resources are online sites or tools (73%) and books or brochures (63%), and observations of natural areas (63%). Many also find friends and contacts, tours, workshops, videos, and technical training (e.g., Master Gardeners) and experts to be useful resources.

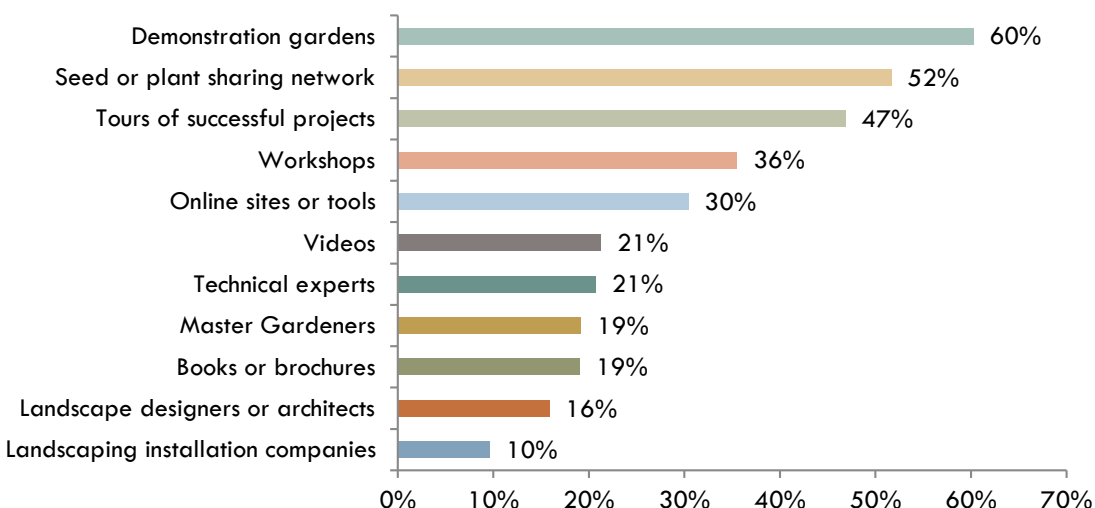
A total of 430 gardeners provided comments with additional insights into the resources they found most helpful. Many of these mention specific resources that were also reported in Question 5 (*What methods did you use to select plants for the garden?*) and are combined with those in the Appendix (useful websites, books, programs, etc.). The top suggestions (over 40 mentions each) in the comments include native plant nurseries, various books, websites like CalScape.org, Native Plant Society chapters, Extension Services and Master Gardener programs, and botanical gardens.



Question 19. What other resources would you like to see available? Select all that apply.

Answered: 1,059 / Skipped: 215

What other resources would you like to see available? Select all that apply.



Having the opportunity to visit real-life examples of naturescaped gardens is a desire many gardeners share. A majority (60%) would like to have access to demonstration gardens and 47% would like tours of successful projects. There is a strong desire (52%) among gardeners for seed or plant sharing networks. Digital or virtual options are also commonly suggested, including online sites or tools (30%) and videos (21%). Workshops are requested by 36% of gardeners. Native plant gardeners would like access to professionals or skilled volunteers, including technical experts (21%), Master Gardeners (19%), landscape designers or architects (16%), and landscape installation companies (10%). Nineteen percent of gardeners are interested in having more books or brochures available.

Additional comments were provided by 202 gardeners. The most common resource need, cited by 31 gardeners, is more practical guidance on naturescaping. In particular, many gardeners say they would benefit from guidance on skills such as pruning native plants, managing weeds, and irrigation. Gardeners mention the need for more nurseries to carry locally native plants (27), as well as access to free or low-cost services that support ecological landscaping projects such as rain gardens (21). Many gardeners also mention the need for more landscape designers and contractors who are knowledgeable about working with native plants (12). Echoing the popularity of in-person tours of projects or demonstration gardens in the multiple-choice survey, 10 gardeners share the need for more opportunities to tour successful and in-progress native plant gardens. Municipal opportunities for the public to enjoy and engage with native plants in public parks are mentioned five times. Six gardeners share a need for more marketing of the benefits of naturescaping, five mention the desire for native plant support/interest groups, three cite the



need for more education on fire-safe landscaping, and three report they would benefit from more photos and videos of successful project examples.

Many gardeners (17) also share that the resources listed in this survey question are already available.

Selected gardener insights for Q19:

"Info on maintaining native plants in suburban areas- how to prune native shrubs etc. I went for the natural method and didn't disturb the plants for the first 5 years, then realized I would have to maintain these plants and I felt uneasy about trimming or cutting things."

"Weed suppression techniques, compatibility techniques with non-native plants such as citrus, fruit."

"Need more access to locally grown straight species native plants"

"More garden centres carrying native options"

"Rebates or programs that provide financial incentives to help people get started"

"Guided work parties to get some of the initial hard labor done."

"Our area has NO landscapers who specialize in natives and we desperately need that. Tourist area where method is chop all the trees down, put in concrete, landscape fabric and rock. It is horrible for habitat, the mentality here."

"Native garden tours like California's Bringing Back the Natives Garden Tours!! Real tactile and visual experiences with native gardens might be the most important resource for helping people garden with natives. Seeing is believing after all."

"There is a need for demonstration gardens incorporating locally native plants."

"I suspect that if one were starting today the number and availability of resources is far more than necessary for any new homeowner or gardener."

"Volunteer opportunities for restoring public areas (parks) that teach about effective weed removal, appropriate plants to restore the area, techniques for planting in deep mulch or from seed, establishing edible indigenous gardens for public harvest"

"More common public spaces open to allowing people to establish native plant garden"

"Municipalities and neighborhood associations should support and encourage landscaping with natives."

"Help from native plant people to understand when things go wrong."

"Increased social media that educates people about the importance of natives & environmentally friendly gardening practices."

"Marketing the benefits of native plants and the harms of traditional yards."

"It would be nice to see more videos of native landscape designs for my area. It's nice to see what the plants look like when mature"

"More pictures/videos of native gardens - from 10 feet away! not close up. We need to see the context of the garden."

"We need more support to train local landscapers on fire safe landscaping with Native Plants, the Theodore Payne Foundation is the most inspiring group we have found and hope to someday work with others to create the same resources here in our County."



Section 5. Additional thoughts

Question 20. Please share with us any additional thoughts about the meaning, value or purpose you may find in naturescaping.

Answered: 602 / Skipped: 672

This question was entirely open-ended and elicited 602 comments. The responses reveal that naturescaping carries profound personal meaning for gardeners, far beyond the practical dimensions of gardening. The most striking finding is the sheer prevalence of what can be characterized as joy. Nearly half of all responses to this question describe their native plant garden as a direct source of happiness, peace, mental health, and personal fulfillment. Gardeners use words like "therapeutic," "sanctuary," "life-changing," and "magical" to describe the experience. Many note that working in the garden provides a sense of control and calm in a world that otherwise feels overwhelming, and that simply sitting and observing a bee on a flower, a hawk on a fence, or a salamander under a pile of mulch has become one of the most meaningful parts of their daily life.

Wildlife and biodiversity are central to this sense of meaning. The second and third most common themes, wildlife observations (174) and sense of purpose/climate stewardship (162), are closely intertwined. Gardeners frequently describe watching their yards come alive as a direct measure of success: counting bird species, documenting pollinators on iNaturalist, spotting a new butterfly or a first-ever reptile. For many, this ecological return is also framed as a form of active climate response: a small but tangible contribution to a problem that otherwise feels insurmountable. As one respondent put it, "when current events are looming so large above me, I feel this is a real, tangible difference I can make in the world." This sense of doing something meaningful is voiced across the full range of gardeners, from retirees to young renters, from professional ecologists to first-time gardeners. The sense of joy and fulfillment linked with a commitment to helping nature culminates in an act of reciprocity: we give to the garden and the garden gives to us.

Community emerges as another significant dimension. Over 80 gardeners describe how their gardens have sparked conversations with neighbors, inspired others on the street to try native plants, led to seed and plant exchanges, and built new friendships. Several describe strangers stopping to ask questions, children pressing their faces against fences to watch caterpillars, and neighbors who were initially skeptical coming around after seeing results. A smaller group goes further, calling for policy changes such as mandatory homeowners' associations accommodation of native plants, city incentives for lawn conversion, and better public education, reflecting a view of individual gardens as part of a larger civic and ecological project. Dozens of gardeners also acknowledge frustration or difficulty because, for example, some plants die, wildlife has not arrived yet, and invasives keep coming back. These voices balance the overall tone of enthusiasm with honest realism, and most express that they are persisting anyway.



Selected gardener insights for Q20:

"When people walk in my yard, I see them visibly relax. It feels like a tiny bit of wilderness—a bit of chaparral, a forested corner under the trees. It's not a big space, but plant choice, the dense plantings, color, even the scent, feel like being in the hills instead of the city ... It's like something inside you can breathe and relax — the way you feel when you're out hiking in the hills. That's the main reason I garden with native plants."

"I am naturescaping my yard as a way of respecting the many beings we share this planet with and as a tiny effort to restore the land to what it was before it was colonized. It is one action I am taking to recognize that the land was taken from the original inhabitants, both native humans and also wildlife."

"I find that with me naturescaping, my other neighbors in the rural area are starting to consider naturescaping. One neighbor actually is."

"It's honestly the best part of my home & gets better every year."

"It really is true that if you plant native plants, the pollinators/birds/animals will return to your landscape. It has been such a fulfilling experience to watch the life explode in my small urban garden."

"I have been extremely disappointed in the lack of wildlife in my garden. We consider it a bird/insect/pollinator desert. Almost all of my plants are native. But I'll keep trying."

"Naturescaping gives me peace and a sense of fulfillment in knowing that I am doing what I can to improve my tiny piece of the world for other creatures."

"I am surprised at how easy it was to naturalize most of our property, and saddened that more people won't do it."

"How important it is to correspond with the surrounding ecosystem."

"Using native plants in our gardens helps us feel a part of the land in which we live."

"Naturescaping is not just landscaping to me; it is an act of stewardship, respect, and hope for future generations."

"I find great joy in seeing all the critters and insects that are attracted to you yard and chatting with people walking by and admiring the gardens."

"I adjusted my fence to allow deer more access because they have less habitat in Baltimore."

"As time passes, I feel the most important task in the garden is careful observation."

"Our ... meadow has brought in predatory insects, and snakes, reducing pests in our food gardens! We haven't dealt with wasps on our patio since either!"

"My greatest joy is in knowing that I am saving water (I water maybe once a month) and in viewing the bees that flock to the plants throughout the year."

"It's a lot of work but I am thankful that I can help provide a small piece of native and wild habitat for birds and insects."

*"My sparrows *love* my winter stick piles, and even the brambles, and finding a salamander under my mulch pile makes it all worth the effort."*

"We're so happy about how things worked out ... we weren't able to spend a lot of money, but combining using seeds and plants from plant sales helped a lot."



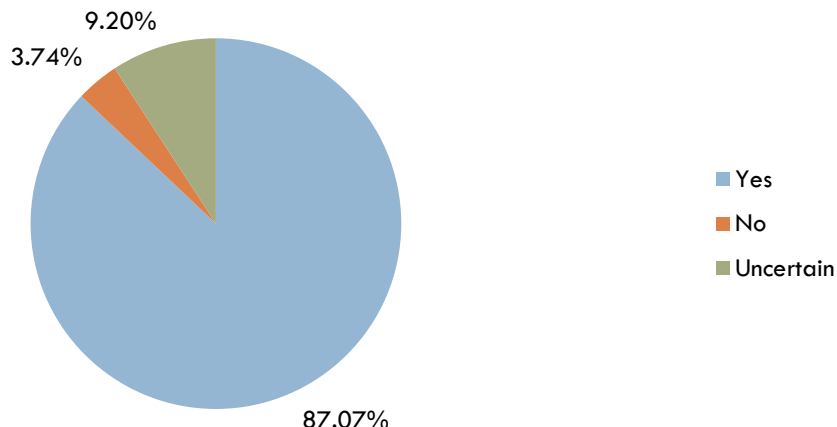
Section 6. Climate change

In this supplement to the survey sent to a subset of previous respondents, we asked five questions to understand how gardeners perceive the effects of climate change on their native plantings, including effects on plants and wildlife, impacts on plant health, changes to gardening practices, use of plants from warmer areas, and general thoughts.

Question C-1. Do you feel that climate change will affect the plants in your garden or the way your garden supports pollinators and wildlife?

Answered: 348 / Skipped: 1

Do you feel that climate change will affect the plants in your garden or the way your garden supports pollinators and wildlife?



Most gardeners (87%) answered yes to this question. A total of 126 people left additional comments, indicating that they are already experiencing the effects of climate change, and providing insights into how and why they believe climate change impacts their gardens, wildlife, and pollinators. Drought and heat stress to plants are each very frequently mentioned, along with extreme or variable weather events. Another concern mentioned multiple times is phenological mismatch between plants and insects or birds, with plants flowering weeks earlier than when pollinators emerge, fruits ripening before migrating birds arrive, and caterpillars completing metamorphosis out of sync with their food sources. Several gardeners comment on the resiliency of native plants to climate change and extreme weather events, and their ability or need to migrate.



Selected gardener insights for QC-1:

"I am watching plants flower or fruit earlier and often the pollinator has not yet emerged. Caterpillars are confused and I'm finding chrysalis that have never had adults emerge. My soaproot is flowering earlier in the day (2 p.m. instead of evening), also confusing and changing pollinators."

"It is not so much the overall change in average temp or precip, but the big spikes and swings in temperature or rainfall over short periods that make it difficult for plants to persist."

"As the climate slowly warms, we will find more native plants and the insects that they host moving further North. Since plants and insects already do not adhere to political boundaries, how will a person be able to distinguish 'true native plants' in the near future?"

"I'm already selecting for native plants that are more drought tolerant and thrive in drier conditions. So far things seem to be overwintering okay which is good because I haven't quite figured out how to garden differently for more extreme winters."

"We have had some serious drought and evacuations due to wildfire which made it difficult to tend dry gardens."

"If anything, I would expect native gardens to act as more stable access to shelter and forage. For example, during a drought a garden will receive supplemental water, allowing flowers to bloom for longer."

"Dry conditions have made it more difficult to grow some plants and everything requires more water."

"Change is a fact of life for all living things and we are all changing and/or adapting to thrive and survive."

"I find myself irrigating to avoid the worst impacts of high temperature events when I suspect VPD [Vapor Pressure Deficit] will also spike. The loss of overstory trees is a real threat to the garden ecosystem and the wildlife that currently use the garden, not to mention ambient cooling for the home."

"Much hotter summers and increased drought means that I will absolutely have to provide supplemental irrigation in the summers."

Climate-stressed Douglas-fir trees succumbing to summer heat and drought combined with beetle infestation in Oregon's Siskiyou Mountains.

35% of gardeners are noticing plants struggling or dying due to climate change.



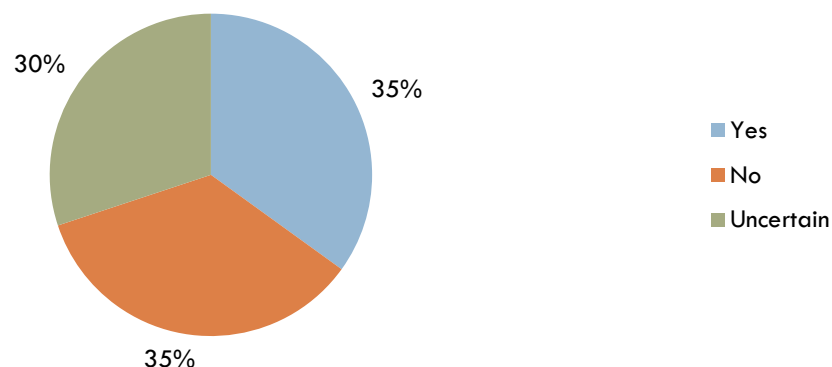
Photo: Thomas Koye



Question C-2. Have you noticed any native plants in your garden struggling or dying from what you believe to be climate change-related causes?

Answered: 349 / Skipped: 0

Have you noticed any native plants in your garden struggling or dying from what you believe to be climate change-related causes?



Responses were split roughly evenly, with about one third of gardeners each answering “yes,” “no,” and “uncertain.” We received comments from 137 gardeners. The largest share of comments (40% overall) discuss observations of drought and moisture stress on plants in the garden, with 37 comments naming specific plants affected (see Table 2), including mentions of conifers (especially western red cedar but also Douglas-fir, pines, true firs, juniper, and coast redwood) from 14 gardeners. Some gardeners mention positive results of moving plants like *Baccharis* and *Calycanthus* from a hotter region to their garden. Others (26) observe that moisture-loving plants are struggling, and that heat stress and heat dome events are impacting their plants (23). Some comments (14) indicate that invasive species, pests, and pathogens may be increasing, while others (9) express concern about phenological mismatches, such as between plants and their pollinators.

Some comments (15) mention that native plants may be resilient to climate change, providing hope for the future. Many other gardeners (35) express uncertainty about climate change effects in their comments, often because their native plant garden is relatively recently established so it is too soon to tell, and/or they are not sure if mortality is due to moisture stress or some other cause.



Selected gardener insights for QC-2:

"Only a portion of my Red Flowering Currant leafed out and produced small flowers, the rest of the plant hasn't leafed out yet and I'm worried the buds will die."

"Denver has had barely any snow this year (weather not climate) and I have noticed plants are smaller, blooming is minimal, and some plants seemed to dry up and not bloom whatsoever. Denver always has a different seasons, but the weather is definitely more extreme."

"Quaking aspen and birches have died. Deer ferns don't seem to grow. Many snowberries are compromised. But many plants are also flourishing."

"Some things have died, but we haven't had anything long enough to assess climate related causes."

"The heat dome killed a bunch of newly planted natives, and I've lost a red cedar."

"Drought combined with very intense heat has been a very real problem for my plants specifically. I'm also concerned with the lack of pollinators in my garden due to lack of water or availability of other native plant food/ shelter/ host sources."

"I have noticed some plants that were struggling where I thought they wouldn't: White sage, redwood trees, ceanothus. But not sure the struggle is due to climate change."

"Our big leaf maple sapling (6 years old) has had its leaves turn yellow and even dropped its leaves by August 1 for the past 3 summers."

"My garden is still new so it's hard to tell whether climate change is having an effect."

"California's native plants are well adapted to temperature and weather extremes. The ones in my garden have been incredibly hardy and resilient so far."

"I used to have bushy bluestem growing naturally in our ditch. No longer. Ash juniper trees have died due to drought."

"Douglas firs are looking stressed from less water."

"The Western Red Cedar trees are suffering the most in my area east of Portland, OR."

"Two years ago all my red currants suddenly died. They had been planted 10-15 years ago and were doing well. I can't help but wonder if it was not the result of the heat dome we had a couple of years ago. There was no sign of disease. I have replaced many with bare roots and hope the next generation will take."

"During hot, dry summers (in Santa Fe, NM zone 6) I notice my aspen and cottonwood trees leaves wilt despite providing them water 2x per week. Although the aspen trees struggle more than the cottonwood trees. We have planted Desert willow trees and although these do well during dry winters and summers they struggle during wet winters. Finding the right tree that can take these weather swings has been a challenge."

"My native plants are thriving. I selected them specifically for site conditions."

"Lots of confirmation bias in discussions around this."



Table 2. Species reported to be showing signs of stress or mortality from climate change in native plant gardens.

Common Name	Scientific Name	Total Mentions
Trees and Shrubs		
Western red cedar	<i>Thuja plicata</i>	11
Red flowering currant	<i>Ribes sanguineum</i>	4
Douglas-fir	<i>Pseudotsuga menziesii</i>	3
Rhododendron	<i>Rhododendron</i> spp.	3
Big-leaf maple	<i>Acer macrophyllum</i>	2
Maple	<i>Acer</i> spp.	2
Manzanita	<i>Arctostaphylos</i> spp.	2
Ceanothus	<i>Ceanothus</i> spp.	2
Quaking aspen	<i>Populus tremuloides</i>	2
Evergreen huckleberry	<i>Vaccinium ovatum</i>	2
White fir	<i>Abies concolor</i>	1
Sugar maple	<i>Acer saccharum</i>	1
Red alder	<i>Alnus rubra</i>	1
Pacific madrone	<i>Arbutus menziesii</i>	1
Birch	<i>Betula</i> spp.	1
Desert willow	<i>Chilopsis linearis</i>	1
Fothergilla	<i>Fothergilla</i> spp.	1
Salal	<i>Gaultheria shallon</i>	1
Mendocino cypress	<i>Hesperocyparis pygmaea</i>	1
Ash juniper	<i>Juniperus ashei</i>	1
Wax myrtle	<i>Morella californica</i>	1
Indian plum	<i>Oemleria cerasiformis</i>	1
Pine	<i>Pinus</i> spp.	1
Cottonwood	<i>Populus</i> spp.	1
Oak	<i>Quercus</i> spp.	1
Fuchsia-flowered gooseberry	<i>Ribes speciosum</i>	1
Currant	<i>Ribes</i> spp.	1
Willow	<i>Salix</i> spp.	1
Blue elderberry	<i>Sambucus nigra</i> ssp. <i>cerulea</i>	1
Coast redwood	<i>Sequoia sempervirens</i>	1
Snowberry	<i>Symphoricarpos albus</i>	1
Herbaceous Plants		
Bleeding heart	<i>Dicentra</i> spp.	2
Bushy bluestem	<i>Andropogon glomeratus</i>	1
Deer fern	<i>Blechnum spicant</i>	1
Spring beauty	<i>Claytonia</i> spp.	1
Yerba buena	<i>Clinopodium douglasii</i>	1
Bunchberry	<i>Cornus canadensis</i>	1
Fritillaria	<i>Fritillaria</i> spp.	1
Redwood sorrel	<i>Oxalis oregana</i>	1
Penstemon	<i>Penstemon</i> spp.	1
Buttercup	<i>Ranunculus</i> spp.	1

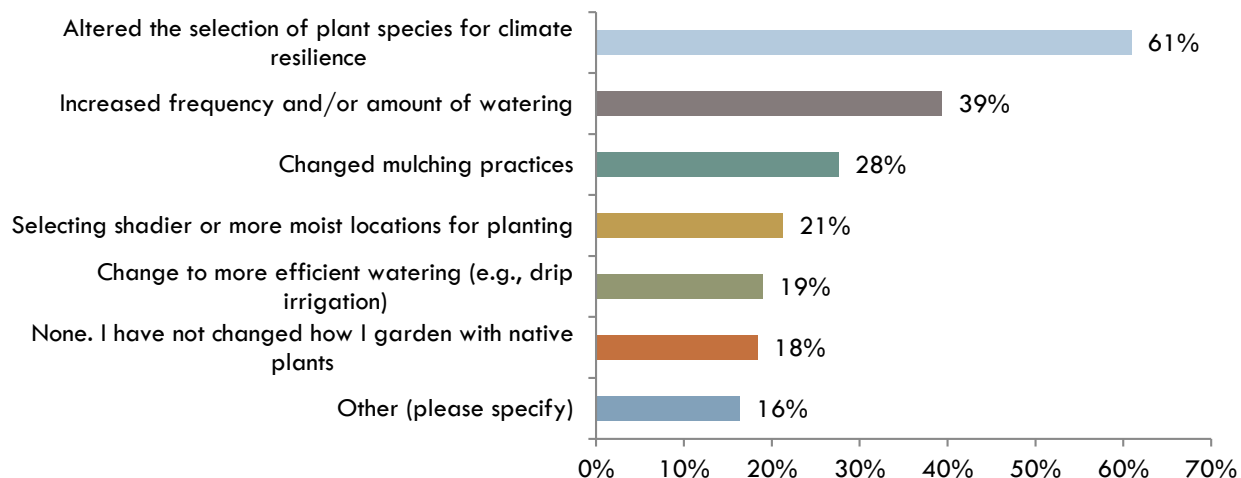


Question C-3. In what ways, if any, have you changed the way you garden with native plants for habitat in response to climate change? Select all that apply.

Answered: 348 / Skipped: 0

In what ways, if any, have you changed the way you garden with native plants for habitat in response to climate change?

Select all that apply.



A majority of gardeners (61%) have changed which species they select to promote climate resiliency. Many have also increased watering (39%) and changed mulching practices (28%) primarily to improve moisture retention and benefit plant survival. Gardeners are also responding to climate change by planting in more moist and shadier locations (21%), and shifting to more efficient irrigation practices (19%). Some (18%) have not changed their gardening practices.

We received comments from 75 gardeners. These largely support the answers to the categorical section of this question, with several gardeners indicating they have shifted to drought- or heat-tolerant species (18), more efficient watering practices (18), and rainwater collection (6). Several note that they are increasing the availability of shade in their gardens through planting trees and shrubs or providing shade structures. Adding water structures like ponds, swales and rain gardens is mentioned by some gardeners. Ten respondents say they deliberately source plants from southern ranges, warmer zones, or adjacent regions where climate is already hotter and drier (anticipating the next question of the survey).



Selected gardener insights for QC-3:

"I've altered the selection of plants, increased watering for those wanting more moisture."

"Installed 3000 gallon rain capture system to water landscaping and veg garden. Contoured yard to hold water onsite. Save water inside to use outside."

"Adding 2 more rain barrels, had a 4 month drought last year!"

"I plant more plants within hose distance. I never used to worry about that."

"Focusing on planting in the fall to ensure better long term success of plants."

"Fall/winter planting. I've almost stopped planting perennials in the spring because mortality rates are much higher."

"Choosing plants that might thrive in more southern regions of the country (I live in the northeast)."

"Planted fast-growing native trees more dominant to our south."

"Selecting plants that are more heat tolerant"

"Started selecting species for one zone higher."

"An increased tolerance for an expanded ecotype - adding some more genetic variance seems prudent"

"I am trying to increase shade throughout my yard and have installed sprinkler systems utilizing an irrigation timer during prolonged periods of drought to help the plants coast through."

"Trying to grow plants from seeds instead of cuttings to increase genetic diversity and thus the chances of having variations that can withstand climate change"

"I am planting native oaks trees to shade my house and garden."



Photos: Thomas Kaye

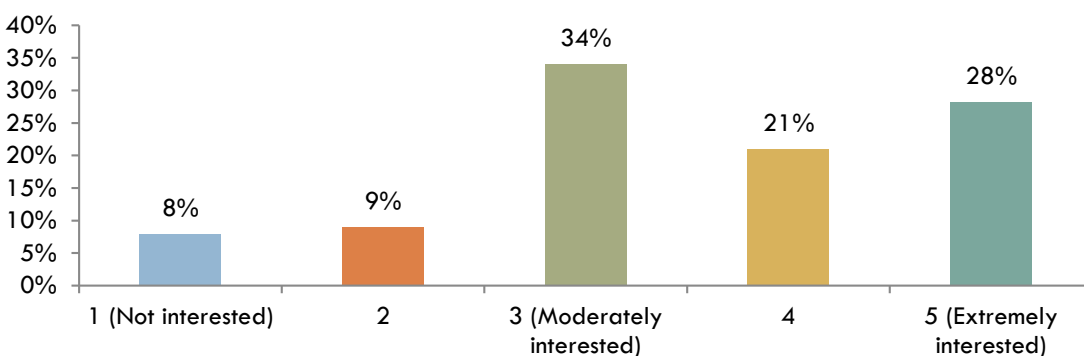
The risk of fire is increasing in many areas due to climate change, which in turn is shaping how, what, and where gardeners are planting, especially near structures.



Question C-4. How interested are you in using native species in your garden that come from hotter/drier geographic locations to improve the climate resilience of your plantings?

Answered: 344 / Skipped: 5

How interested are you in using native species in your garden that come from hotter/drier geographic locations to improve the climate resilience of your plantings?



This question aims to understand the openness of native plant gardeners to moving plants to match changing climates, sometimes called assisted migration, and in this case, also assisted gene flow. The majority of gardeners (286 out of 344, or 83%) are moderately to extremely interested in using plants from hotter or drier geographic locations in their gardens to improve plant resilience in the face of climate change, suggesting broad interest in this method of adapting to climate change. The comments from many gardeners range from perspectives of accepted practice (“I’m already doing this”) to firm opposition, with many comments representing a middle ground of cautious openness. Some gardeners point out that moving species in response to climate change challenges their definition of what is “native,” while others share a healthy skepticism about bringing in plants from distant locations and wariness of mistakes that could create new invasive species or separate plants from their pollinators or sever other ecological connections.



Selected gardener insights for QC-4:

"I have started to do this and would welcome additional information on best practices."

"This is a strategy I am already using."

"I will follow recommendations of trusted ecologists and land managers when it comes to assisted migration. At this time, I'm more interested in selecting the same native species, but those with seed sources/genetics that match predicted future climate analogues. Also, this seems most important for trees and other long-lived species."

"I am not interested in introducing plants that are not from the area."

"I am extremely wary of assisted migration. Unless there is a way to import the ENTIRE ecosystem (fungi, bacteria, insects, and other symbiotic relationships), I see any non-locally native plants as exotic."

"Not sure assisted migration will help if flowering patterns are out of sync with local pollinators."

"I think people go too far with simplistic notions of assisted migration, but I also think ecosystems will change with the climate."

"It may become necessary but it would make me sad."

"It's definitely something I am thinking about and considering as I have seen dramatic changes to the summers in the 20 years of living here."

"I try to use plants from warmer/dryer and ADJACENT areas, so near to locally native."

"LOL! We ARE already the hottest and driest location! On our New Mexico property, we do include some plants from west Texas as 'natives' but, overall, I can't imagine that we could find native US plants tougher or more drought tolerant than the ones we already have here."

"Everything we plant is an experiment."

"If the plants come from a hotter/dryer geographic location they are native to their area not mine. But I would still consider it."

"I'm not looking to add plants that are from different regions, but I have looked to add plants native in Kentucky to my Ohio garden."

"We are more interested in trying to assist the northward migration of plants from immediately south of us than in selecting plants from farther away areas."

"I already anticipate the coming changes and embrace a greater selection of Native plants, including cultivars that are bred for drought tolerance!"

"Still using the Portland plant list as my general guide for choosing plants but would love to have a resource that recommends native plants that will thrive in my area as the climate changes."

"Makes sense. I'm willing to experiment, depending on the plant. They'd have to at least like heavy clay soil."

"I'd like to experiment with it for sure. They say we'll [Portland, Oregon] experience northern California's climate within 30 years or less."



Question C-5. Please share any additional comments you have about the impacts of climate change on your native plant gardening practices.

Answered: 114 / Skipped: 235

This question solicited general responses in an open-ended format and was intended to capture thoughts and ideas that were not easily identified from the previous questions. We see several trends in these comments, including some that are rarely discussed in native plant gardening literature, such as the physical toll of heat on gardeners themselves, grief about ecological loss, and cautious optimism about growing community engagement. Multiple gardeners emphasize that the challenge of climate change is variability and unpredictability, such as atmospheric rivers followed by heat waves and dry winters followed by late rains, rather than a simple shift toward hotter and drier. A common theme is gardeners shifting to selecting plants for drought resistance and heat tolerance, low water needs, and climate resilience in general. Many gardeners also note that they are increasing watering frequency and efficiency, installing drip systems, planting for shade, monitoring new plantings more closely, and watering proactively before heat events rather than reactively after.

Concerns about pollinators and phenology mismatches from climate change are frequent. Some gardeners describe how heat limits their ability to work in the garden, for example by restricting work to mornings, preventing summer gardening altogether, or raising health concerns from wildfire smoke and insects. Concerns about fire resilience and invasive species are often paired, with fire zone management creating real constraints on planting choices, fire departments discouraging natives (mistakenly, in gardeners' views), and invasive plants and pests spreading under warmer conditions and due to fires. Several gardeners strike a hopeful tone, describing optimism, action, and growing community engagement. They describe dramatically increased interest in native plants in their neighborhoods, frame their gardens as experiments and observation sites, and call for genetic diversity, selective breeding, and updates from assisted migration trials.



Selected gardener insights for QC-5:

"I'm worried about the decline in bugs, bees, birds...are we in the middle of Silent Spring and don't realize it yet?"

"I am more aware that I need to get plants in the ground as early as possible so roots have time to develop and get trees and shrubs off to as strong as possible start before summer heat comes on."

"I'm trying to plant complex and dynamic plant communities that can shift and adapt with limited intervention after my lifetime. I am planting a ton of species with various niches and trying to create some ecological and even hydrological complexity on my site to allow for adaptability."

"I choose plant species and planting practices (e.g., mulching) that anticipate extreme weather and general warming to the extent that I can. I use soaker hoses for drip irrigation."

"I am worried about the timing of flowers and when native pollinators emerge. I am also worried about how honey bees are out-competing the native pollinators."

"I, too, am physically changing! I am a senior, so I am anticipating and seeking ways to enhance my future mobility needs in the gardens. I.e., wider pathways to accommodate my need for a walker, buried water lines to have water access farther away from the house so I will have no need to drag a garden hose."

"I'm also concerned that climate change may make for opportune conditions for invasive plants to spread."

"We always look at drought tolerance when we purchase plants. We avoid those that need moist soils or can't take the heat."

"In the San Francisco Bay area, one of the biggest impacts on my California native plant garden has been unpredictable and severe rains. Many of my plants that are drought-tolerant have not survived severe 'atmospheric river' type rains we've had over the past several winters."

"I definitely think of aspect more frequently, wondering what to put in the areas with direct sun. I am installing a small raingarden and have been planning for overflow events."

"I work in a native plant nursery, and we are getting a lot more customers who want to plant natives than we used to. We used to mostly have orders from State Parks and other restoration work, and now we're selling to a lot of home owners and landscapers."

"More extreme climate events demand more active garden oversight--watering in advance of extreme heat and providing shade; capturing rain and managing erosion caused by more intense storms."

"Gardens might be good places to test 'out of area' natives for assisted migration. They get closer and more frequent observation. Main issue is: who do you report information to?"

"There is so much to learn about climate-ready plants and also the species that will come with them, and how that will change over time!"

"Gardening with native plants and carefully observing their response to seasonal change is generally a pleasurable activity. But when such observation reveals climate-induced stress it brings to mind the greater existential threat that climate change presents and that can be disconcerting."

"I'm saying that there's reason to be guardedly optimistic directly in the face of all the bad news."



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Patton, M.Q. 2015. *Qualitative research and evaluation methods*. Fourth edition. Sage Publications, Los Angeles, California.



A bumblebee approaching a camas lily in a natural area.

Attracting pollinators, an interest in native plants, and attracting birds and wildlife each motivate over 90% of the gardeners surveyed.



APPENDIX. RESOURCES RECOMMENDED BY GARDENERS

This appendix represents a compiled list of resources for native plant gardening suggested explicitly in open-ended comments by respondents in questions 5 and 18. Some book titles are regional and others very broad in scope. There are many books out there with similar sounding names but for different regions. We recommend using this list as a starting point to start searching. We only report those mentioned by survey respondents.

Although some of these resources and contacts are very location specific (a particular watershed, city, garden, etc.) many items are a subset of a larger national collection or organization. For example, although the Native Plant Societies of Oregon and Virginia are listed there are many more states with similar societies. Similarly, check out your local Extension Service, Soil & Water Conservation District, city water utilities, state departments (of forestry, fish & wildlife, etc.), and nearby wild spaces (wildlife refuges, gardens, national parks, etc.).

Use this appendix as an inspiration to find resources local to your region or applicable anywhere!

Books / Publications

This list is not comprehensive of all the available native plant books, of course, because it includes only those specifically mentioned in the comments of questions 5 and 18 of the survey. Due to the number of respondents from the West Coast of the U.S., this list is biased towards books about California and the Pacific Northwest, but there are plenty of books for other regions and it may be helpful to read through this list to gather keywords to search for in your local area.

Mentioned more than once in the comments, often many times:

- *Attracting Native Pollinators* - Eric Lee-Mader, The Xerces Society
- *Bringing Nature Home* - Doug Tallamy
- *California Native Gardening* - Helen Popper
- *California Native Plants for the Garden* - Carol Bornstein, David Fross, Bart O'Brien
- *Designing California Native Gardens* - Glenn Keator, Alrie Middlebrook
- *Encyclopedia of Northwest Native Plants For Gardens and Landscapes* - Kathleen A. Robson, Alice Richter, Marianne Filbert
- *Gaia's Garden* - Toby Hemenway
- *Gardening with Native Plants of the Pacific Northwest* - Arthur R. Kruckeberg, Linda Chalker-Scott
- *Growing California Native Plants* - Marjorie G. Schmidt
- *Landscaping for Wildlife in the Pacific Northwest* - Russell Link
- *The Language of Landscape* - Anne Whiston Spirn
- *Native plants for Willamette Valley yards booklet* [pdf](#) and *Plantas nativas (en español)* [pdf](#) - Metro (OR)
- *Nature's Best Hope* - Doug Tallamy
- *Plant Life in the World's Mediterranean Climates* - Peter R. Dallman
- *Planting in a Post-Wild World* - Thomas Rainer, Claudia West
- *Plants of the Pacific Northwest Coast: Washington, Oregon, British Columbia & Alaska* ("Pojar and MacKinnon") - Jim Pojar, Andy MacKinnon
- *Prairie Up* - Benjamin Vogt
- *Rainwater Harvesting for Drylands and Beyond* - Brad Lancaster, Joe Marshall
- *Real Gardens Grow Natives* - Eileen M. Stark



Mentioned once in the comments:

- *The American Meadow Garden* - John Greenlee
- *The Bees in Your Backyard* - Joseph S. Wilson
- *Building Soils for Better Crops* - Fred Magdoff, Harold Van Es
- *The California Native Landscape* - Greg Rubin, Lucy Warren
- *The California Wildlife Habitat Garden* - Nancy Bauer
- *Drought-Defying California Garden* - Greg Rubin, Lucy Warren
- *Field Guide to the Sedges of the Pacific Northwest* - Barbara L. Wilson et al.
- *Flora of North America North of Mexico (FNA)* - multi-volume
- *Flora of the Pacific Northwest (FPNW)* - C. Leo Hitchcock, Arthur Cronquist
- *Flora of the Santa Ana River and Environs* - Oscar F. Clarke
- *A Forest of Your Own: A PNW Handbook of Ecological Forestry* - Kirk Hanson
- *Garden Revolution* - Larry Weaner, Thomas Christopher
- *Garden to the Max* - Teresa Woodard
- *Gardening in the Pacific Northwest* - Paul Bonine, Amy Campion
- *Gardening with Native Plants of the South* - Sally Wasowski, Andy Wasowski
- *Grow Your Own Native Landscape* - Michael Leigh
- *Grow Your Soil* - Diane Miessler
- *Growing Vegetables West of the Cascades* - Steve Solomon
- *A Guide to Native Plants for the Santa Fe Landscape* [pdf](#) - Santa Fe Extension Master Gardeners
- *Hellstrip Gardening* - Evelyn Hadden
- *Herbaceous Perennial Plants* - Allan Armitage
- *Introduction to Permaculture* - B. C. Mollison, Reny Mia Slay
- *Landscape Plants for California Gardens* - Bob Perry
- *The Landscaping Ideas of Jays* - Judith Larner Lowry
- *The Living Landscape* - Rick Darke
- *Native Gardening in Northern New Mexico* - Terry Bumgardner et al.
- *Native Plant Primer* - Kristin Currin
- *Native Plants* - Margaret L Fillius
- *Native Plants and Trees of Oregon* [pdf](#) - Oregon Department of Forestry
- *Native Plants for Pollinators and Beneficial Insects: Maritime Northwest Region* ([pdf](#)) – Xerces Society
- *Native Plants for Wildlife Habitat and Conservation Landscaping (Chesapeake Bay Watershed)* - U.S. Fish and Wildlife Service
- *Native Treasures* - M. Nevin Smith
- *The Nature of Oaks* - Doug Tallamy
- *Naturescaping a Place for Wildlife* - Joanne Hirose et al. - Oregon Department of Fish & Wildlife
- *Nature's Action Guide* - Sarah F. Jayne
- *New Mexico Gardener's Guide* - Judith Phillips
- *The New Western Garden Book (Sunset)* - Kathleen Norris Brenzel
- *The Northeast Native Plant Primer* - Uli Lorimer
- *Pacific Northwest Native Plant Gardening for Birds, Bees, and Butterflies* - Jaret C Daniels
- *The People of Cascadia* - Heidi Bohan
- *Reimagining the California Lawn* - Carol Bornstein, David Fross, Bart O'Brien
- *Second Nature* - Michael Pollan
- *Secrets of the Oak Woodlands* - Kate Marianchild
- *The Self-sustaining Garden* - Peter Thompson
- *Sustainable Landscaping For Dummies* - Owen E. Dell
- *Teaming series* - Jeff Lowenfels
- *The Undaunted Garden* - Lauren Springer



- *Wildflowers of Orange County and the Santa Ana Mountains* - Robert Allen, Fred Roberts
- *Wildflowers of the Atlantic Southeast* - Alan Weakley, Damon Waitt, Laura Cotterman
- *Wildflowers of the Santa Monica Mountains* - Milt McAuley

Media

Some comments referred to “podcasts” or “YouTube channels” in general terms, but the following specific ones were mentioned. The first three were mentioned more than once.

- [A Way to Garden with Margaret Roach](#) podcast
- [Joe Gardener](#) podcast
- [Monty Don](#) garden show
- [Growing Greener](#) podcast
- [Crime Pays But Botany Doesn't - YouTube channel](#)

Plant Databases / Lists

- University of Washington - [Burke Herbarium](#)
- Symbiota (Open-Source Biodiversity Data Management Software org)
 - [SEINet](#) - Southwest Environmental Information Network
 - [OregonFlora](#) (OR) - Oregon State University Herbarium
- Cornell Botanic Gardens' [Garden Explorer](#) (NY)
- Oregon State University [Bee Atlas](#)
- [Biota of North America Program](#) (BONAP)
- [NWF Native Plants Finder](#)
- [NatureServe](#)
- [iNaturalist](#)
- [Calflora](#) (CA)
- [Calscape](#) - California Native Plant Society project
- [Illinois Wildflowers](#)
- [Native Plants PNW](#) (WA) blog
- [Digital Atlas of the Virginia Flora](#)
- [Flora of the Southeastern United States](#) app FloraQuest - North Carolina Botanical Garden
- [Great Plant Picks](#) (WA)
- [Native plants for Willamette Valley yards booklet](#) (OR) - Metro
- [Native Plant Guide](#) (OR) - East Multnomah Soil & Water Conservation District
- [Native Plant Guide](#) (WA) - King County government
- [Natural Communities of Georgia](#)
- [Garden Project Academy](#) - tool for designing garden spaces
- [Missouri Flora](#) (MO)
- [The Butterfly Net: Lepidoptera Conservation Tool](#) (CA)
- [Wild Plants from Seed](#) (Canada)
- [Database of Vascular Plants of Canada \(VASCAN\)](#)
- [Michigan Natural Features Inventory](#) - Michigan State University Extension Service

Nurseries / Plant Sellers

There are many places to find native plants or supportive plant people to help you design your garden, according to the comments of questions 5 and 18! The first list contains nurseries, plant or seed sellers that were mentioned more than once (some of them were mentioned dozens of times). The second list is those that were mentioned only once.

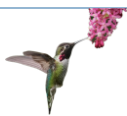


Mentioned more than once:

- [Bosky Dell Natives](#) (OR)
- [East Bay Wilds Native Plant Nursery](#) (CA)
- [Garden Fever](#) (OR)
- [High Country Gardens](#) (national brand, Utah greenhouse, Vermont warehouse)
 - [Waterwise Gardening](#) (NM)
- [Humble Roots Nursery](#) (OR)
- [Las Pilitas Nursery](#) (CA)
- [Linda Vista Native Plants](#) (CA)
- [Plants of the Southwest](#) (NM)
- [Portland Nursery](#) (OR)
- [Prairie Moon Nursery](#) (MN)
- [Sauvie Island Natives](#) (OR)
- [Sparrowhawk Native Plants](#) (OR)
- [Symbiop Garden Shop](#) (OR)
- [Tree of Life Nursery \(TOLN\)](#) (CA) - now closed
- [Xera Plants Inc.](#) (OR)

Mentioned once:

- [Artemisia](#) (CA)
- [Grow Native Nursery](#) at the California Botanic Garden
- [California Flora Nursery](#)
- [Californica Nursery](#) (CA)
- [Catskill Native Nursery](#) (NY)
- [Cistus Nursery](#) (OR)
- [Cornflower Farms](#) (CA)
- [Doak Creek Nursery](#) (OR)
- [Earth Tones Native Plants](#) (CT)
- [Echo Valley Natives](#) (OR)
- [El Nativio Growers](#) (CA)
- [Fourth Corner Nurseries](#) (WA)
- [Half Moon Bay Nursery](#) (CA)
- [Hedgerow Farms](#) (CA)
- [Herring Run Nursery](#) (MD)
- [Izel Native Plants](#) (eastern US)
- [Larner Seeds](#) (CA)
- [Klamath-Siskiyou Native Seeds](#) (CA-OR border)
- [Leaves for Wildlife](#) (OH)
- [Little Bluestem](#) (VA)
- [Missouri Wildflowers Nursery](#) (MO)
- [Moulton Hot Natives](#) (VA)
- [Native Foods Nursery](#) (OR)
- [Natural Themes Native Plant Nursery](#) (Ontario, Canada)
- [Oaktown Native Plant Nursery](#) (CA)
- [One Green World](#) (OR)
- [One Nature Nursery](#) (NY)
- [OLVC Nursery](#) (CA)
- [Pacific NW Natives](#) (OR)
- [Pleasant Run Nursery](#) (NJ)
- [Raintree Nursery](#) (WA)



Gardening for Nature Survey Results

- [San Marcos Growers](#) (CA) - now closed
- Sequoia Riverlands Trust's [Dry Creek Nursery](#) (CA)
- [Stillwater Natives](#) (OR)
- [Tapteal Native Plant Nursery](#) (WA)
- [Trees that Please](#) (NM)
- [The Watershed Nursery](#) (CA)
- [Western Native Seed](#) (CO)
- [Wild Ridge Plants](#) (NJ)
- [Willamette Gardens](#) (OR)
- [Yerba Buena Nursery](#) (CA)
- [Yes Yes Nursery](#) (CA)

Gardens / Arboretums / Wild spaces

- [Missouri Botanical Garden](#) (MO)
- [California Botanic Garden](#) (staff, workshop) (CA)
- Delbert Hunter Arboretum and Botanic Garden (OR)
- ReWild Long Island's [Edgewood Preserve](#) (NY)
- [Kruckeberg Botanic Garden](#) (WA)
- [Martha Walker Gardens](#) at Skyline Wilderness Park (CA)
- [Mt. Cuba Center](#) (DE)
- [NYC High Line Garden](#) (NY)
- [Santa Barbara Botanical Garden](#) staff (CA)
- [Santa Fe Botanical Garden](#) classes (NM)
- [Apricot Lane Farms](#) (CA)
- [Arlington Garden in Pasadena](#) (CA)
- [Coastal Maine Botanical Gardens](#) (ME)
- [Regional Parks Botanic Garden](#) (in Tilden Regional Park) (CA) - East Bay Regional Park District
- [New York Botanical Garden](#) (NY) classes
- [Whiteshell Provincial Park](#) (Canada)
- Wild Ones' [Greensboro Garden Design](#)
- [Arboretum and Botanical Garden](#) at Cal State Fullerton (CA)
- [University of California Botanical Garden at Berkeley](#) (CA)
- [UC Davis Arboretum and Public Garden](#) (CA)
- [Lady Bird Johnson Wildflower Center](#) - University of Texas at Austin
 - [Plant Database](#)
- [Centennial Museum and Chihuahuan Desert Gardens](#) (University of Texas El Paso)
 - [Florafest](#) (native plant sale)
- [Sherwood Demonstration Garden](#) (CA) - UC Master Gardeners of El Dorado County
- SUNY Westchester Community College [Native Plant Center](#) (NY)
- [Ivy Creek Natural Area](#) (VA) - Virginia Department of Wildlife Resources
- [Lents Park](#) Nature Patch (OR)
- [Santa Monica Mountains National Recreation Area](#) (CA)
- [Crystal Cove State Park](#) (CA)
- National Parks
- Water district demonstration gardens

Organizations / Nonprofits

- [Blooming Boulevards](#) (Ontario, Canada)



Gardening for Nature Survey Results

- Butte County Fire Safe Council (BCFSC) [Backyard Stewardship program](#) (CA)
- [Columbia Land Trust](#) (OR & WA)
- [Deschutes Land Trust](#) (OR)
- [Earth Sangha](#) public charity in DC area
- [EcoFarm](#) (CA)
- Guardians of the Prairie [Facebook group](#) (Illinois)
- [Grassroots Ecology](#) (CA)
- [Grow Native Massachusetts](#)
- [Growing with Nature](#)
- [Homegrown National Park](#) (across the US)
- [Los Padres ForestWatch](#) Zooms (CA)
- [MetroBlooms](#) (MN)
- [Native Plant Trust](#) (MA) - garden, nursery, activism
- [Native Prairies Association of Texas](#)
- [National Wildlife Federation](#) (NWF)
- [Naturescaping of Southwest Washington](#)
- [New Directions in the American Landscape](#) (NDAL) (PA)
- [New Jersey Nursery & Landscape Association](#) (NJNLA)
- [Ojai Valley Land Conservancy](#) (CA)
 - [Rewild Ojai](#)
- [Plant Virginia Natives](#)
 - [Plant NOVA Natives](#) (Northern VA)
- [Pollinator Partnership](#) (CA)
- [Pollinator Pathway Bend](#) (OR)
- [Prospect Heights Natural Resources Commission](#) (IL)
- [Sag Moraine](#) YouTube (IL)
- [Sarvodaya Institute](#) (CA)
- [Tryon Creek Watershed Council](#) (OR)
- [Wild Ones](#) (across the US)
- [Worthy Garden Club](#) (OR)

Programs / Projects

- [Backyard Habitat Certification Program](#) (OR)
- [Chesapeake Bay Program](#) (MD)
- [The Environmental Center](#) (OR)
- [Go Beyond Beauty](#) (MI)
- Green Lents [Tool Library](#) (OR)
- Healthy Yards [Westchester Pollinators](#) (NY)
- [The Oregon Bee Project](#) (OR)
- [Pollinator Parkways](#) (OR)
- [Science for Nature and People Partnership](#) - projects and classes
- [Theodore Payne Foundation](#) (classes, garden tour, [nursery](#)) (CA)
- [Wild Ones South Bend](#) presentations (Indiana and Michigan)
- [Wild Seed Project](#) (ME)
- [Wild Woods Restoration Project](#) (NY)
- [Hardy Plant Society of Oregon](#) (HPSO)
 - [Open Gardens](#) (OR)
- [Jersey Friendly Yards](#) - like backyard habitat (for NJ)
- [National Native Seed Conference](#)



- [PollinateTO Grants Program](#) - City of Toronto funded program (Canada)
- Metropolitan Water District of Southern California's [BeWaterWise](#)
- [Find Out Farms](#) (CA)
- [Bringing Back the Natives](#) (CA)
- David Suzuki Foundation's [Butterflyway Project](#) (Canada)
- [ChipDrop](#)
- [Prairie Up](#)
- [Weeding Wild Suburbia](#) (CA)
- [Wukchumni Farms](#) workshops (CA)

Societies

Of the following societies and online groups, Xerces, Bird Alliance of Oregon, and Native Plant Societies of California, Georgia, Oregon, Virginia, and Washington were mentioned more than once.

- Bird Societies
 - [Bird Alliance of Oregon](#)
 - St. Louis Audubon Society's [Bring Conservation Home](#) program
 - Coast to Cascades Bird Alliance's [Habitat Haven](#) program (OR)
- [California Indian Basket Association](#) (CIBA)
- [California Native Plant Society](#) (CNPS)
 - [Sacramento Valley Chapter](#)
 - [Sacramento Region's Most Important Plants List](#)
 - [Gardens Gone Native Tour](#)
 - [San Diego Chapter](#)
 - [Redbud Chapter](#)
 - [Orange County Chapter](#)
- [Georgia Native Plant Society](#) (GNPS) member recommendations
- [Native Plant Society of New Jersey](#) (NPSNJ)
- [North Carolina Native Plant Society](#)
- [Native Plant Society of Oregon](#) (NPSO)
- [South Carolina Native Plant Society](#) (SCNPS)
- [Virginia Native Plant Society](#) (VNPS)
- [Washington Native Plant Society](#) (WNPS)
- [Native Plant Society of New Mexico](#) (NPSNM) - Taos chapter
- [Native Plant Society of Texas](#) (NPSOT)
- [Xerces Society](#)
 - [Pollinator Habitat Kit Program](#) (mentioned specifically [NM](#))
 - [Bee City USA](#)
 - [Bee City Los Alamos](#) (NM)
 - [Santa Fe Pollinator Trail](#) initiative
- [Pacific Horticulture](#)
- [Friends of Backyard Habitats Facebook group](#) (20k+ members)
- [Native Plants of the Northeast Facebook group](#) (255k+ members)
- [Bringing Nature Home Facebook group](#) (23k+ members)

Institutions

Federal and local governments, utility companies, special districts, and the University Extension Service were all mentioned multiple times in the comments, including some very specifically, such as East Multnomah Soil & Water Conservation District, AmeriCorps, or Santa Fe Native Plant Project (SNaPP). Below is a list



of broad categories of these kinds of institutions; search for similar groups and native plant gardening resources near you!

The Extension Service is an expansive program across the U.S. with many localized programs and resources organized by county, state, or region. Not all Extension Services offer the same tools but it's worth checking out if there is a Naturalist program or a Watershed Steward program in your local area.

- Utilities and Special Districts
 - Resource conservation district
 - Water district
 - Wastewater services
 - Soil & Water Conservation Districts (SWCD)
- City Government programs
 - Plant lists
 - Free compost
 - Tree giveaways
- Extension Service
 - Publications, online tools, workshops, classes
 - Permaculture design or sustainable landscaping certifications
 - Master Gardeners program (plant sales, seed library, publications, events)
 - Land Stewards program
 - Conservation Stewards program
 - (Master) Naturalist program
 - Watershed Steward program
- Federal Government
 - [Fish & Wildlife Service](#)
 - USDA
 - [Natural Resources Conservation Service](#)
 - Farm Service Agency's [Conservation Reserve Enhancement Program \(CREP\)](#)
 - [Forest Service](#)
 - [AmeriCorps](#) (Confluence Environmental Center and the former Northwest Service Academy program)

