



WASHINGTON STATE UNIVERSITY  
**EXTENSION**



WSU Extension Master Gardener Program

## **2022 IMPACT REPORT**

*Cultivating plants, people, and communities since 1973*



It is my privilege to welcome you to the inaugural WSU Extension Master Gardener Program annual impact report. 2022 was a year of growth and achievement, and I am proud to share some of the points of pride in our work.

Since 1973 the WSU Extension Master Gardener Program has provided horticultural and environmental stewardship education, resources, and support to communities across Washington. From teaching

communities about research-based landscaping practices for their yards and neighborhoods that help people protect themselves and others against potential loss due to wildfire, to engaging with communities about best practices for growing food, protecting pollinators, and reducing water waste in landscapes, extension master gardeners make real differences in the communities they serve.

Our Program is uniquely positioned, and our trained volunteers are well equipped to help communities address the challenges that matter most: food security, climate change, water conservation, wildfires, soil health, pollinators, plant biodiversity, and nearby nature. Extension Master Gardeners understand the health and wellness benefits derived through gardening, being

in nature, and bringing the community together. Extension volunteers give their time to share those benefits with Washington residents.

Looking ahead we continue to strengthen our commitment to diversity, equity, inclusion and belonging. We want to ensure that our program offerings are recognized, accessible and welcoming to all. To that end we are developing Diversity, Equity and Inclusion (DEI) training opportunities for staff and volunteers and are engaging in committee work to identify barriers, define areas of opportunity, and make recommendations for a more diverse and inclusive future.

Cultivating plants, people, and communities since 1973, the WSU Extension Master Gardener Program empowers and sustains diverse communities with relevant, unbiased, research-based horticultural and environmental stewardship education.

Thank you for your contributions. I am constantly amazed and in awe of all that extension master gardeners accomplish. Each of you inspire me, challenge me, and support me. I will forever be grateful and humbled by my experiences working with the WSU Extension Master Gardener Program.

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# CONTENTS

WHO WE ARE .....4

OUR VISION.....6

OUR MISSION.....6

OUR VALUES.....7

OUR PROGRAMS .....9

OUR PRIORITIES .....10

2022 IMPACTS.....12

    LOCAL FOOD .....14

    SOIL HEALTH .....16

    POLLINATOR HEALTH.....18

    WATER CONSERVATION .....20

    CLEAN WATER .....24

    CLIMATE CHANGE .....26

    PLANT BIODIVERSITY .....30

    WILDFIRE PREPAREDNESS.....34

    NEARBY NATURE .....36

## WHO WE ARE

We are community educators.

We are your neighbors and members of your communities.

Our Programs and Priorities inform our efforts to shape healthy communities and a healthy planet.

We are actively engaged in teaching research-based gardening and environmental stewardship practices.



## OUR VISION

Highly recognized, diverse, and fully supported, WSU Master Gardener volunteers are the go-to resource for communities seeking research-based, innovative solutions for their ever-changing horticulture and environmental stewardship needs.



## OUR MISSION

Engaging university-trained volunteers to empower and sustain diverse communities with relevant, unbiased, research-based horticulture and environmental stewardship education.



## OUR VALUES

We value personal and professional research and discovery because it encourages us to stay current about horticulture and environmental stewardship to meet the unique educational needs of our communities.

We foster and benefit from an atmosphere of diversity and inclusivity because our differences inspire creative thinking and innovative solutions.

We act with integrity because trust, truthfulness and respect create a

healthy and positive culture.

We are committed to stewardship and sustainability, serving as ethical and responsible agents of our natural resources, human resources, and University resources.

We collaborate because together we empower healthy and resilient communities.

We are a dynamic and responsive program where knowledge inspires change.





## OUR PROGRAMS

### ASK A MASTER GARDENER

Have a gardening question? Ask a Master Gardener at one of our in-person or on-line plant and insect diagnostic clinics.

From our beginning, Master Gardeners have provided free access to unbiased research-based horticulture advice to help people find answers to their gardening questions. Clinics are located at farmers markets, hardware stores, nurseries, demonstration gardens and Extension offices throughout the state of Washington. You can also find us online.

### DEMONSTRATION GARDENS

Want to see sustainable gardening in action? Stop by one of our gardens. These outdoor classrooms give gardeners the opportunity to see and practice sustainable gardening techniques. Master Gardeners demonstrate via classes, workshops, and field days a range of gardening practices including water wise gardens, native plant gardens, English knot gardens, raised bed vegetable gardening, composting, container gardening, espaliered apples, berry beds and more.

### COMMUNITY GARDENS

Interested in helping put food on the table? Community Gardens inspire people to come together to grow their own food. WSU Master Gardeners are active in

numerous community gardens and teach tips and techniques for increasing production and for handling pesky problems. Community Gardens provide ready access to healthy food and address food insecurity throughout the state.

### YOUTH GARDENING

Are you a teacher who wants to get your students in the garden? The gardeners of tomorrow start building their passion today! Several counties have youth gardening programs where kids can experience the joy of gardening. The goal is to build knowledge, but especially to inspire a passion for gardening that lasts a lifetime.

### SPEAKERS BUREAU

Does your organization need a speaker? WSU Master Gardeners do presentations on a variety of gardening topics as part of their mission to empower and sustain diverse communities with relevant, unbiased research-based yard and garden information. Contact your local county to request a speaker qualified to talk to your garden club, service club or classroom about anything gardening related, from growing veggies to soil health to attracting pollinators, or something specifically to address your group's needs.

### PLANT SALES

Looking for plants well-suited for your particular location? Our plant sales have become important events in our communities. People come looking for unique varieties of vegetable starts and perennials that are well-suited for local climates and soils and for advice from WSU Extension Master Gardeners about how to best care for their new plants. Plant sale goers know that they will get high quality plants and veggie starts at a reasonable price.

We generally hold plant sales in the spring, near Mother's Day and some counties also hold Plant Sales in the fall. Our plant sales, often hosted by our Master Gardener Foundation partners, are an important tool for us to defray the cost of running many of our free programs.



## OUR PRIORITIES



We teach ways to create resilient landscapes that are adapted to our changing climate.



We promote integrated pest management to minimize polluted runoff.



We promote water-wise gardening and landscaping practices to conserve water.



We encourage building healthy soils to prevent depletion and ensure the long-term viability of local food security & natural resources.



We teach ways to help native bees and other pollinators thrive in home and community landscapes.



We promote sustainable techniques to growing local food to improve individual & community health and wellness.



We promote stewardship of diverse ecosystems through invasive species management, native species conservation and restoration in landscapes.



We seek to increase access to plants, green spaces, and public landscapes to benefit the health & well-being of all members of our communities.



We teach landscaping principles to reduce the risk of loss due to wildfire.

## OUR PRIORITIES INFORM OUR EFFORTS

The WSU Master Gardener Program addresses important sociologic and environmental issues by teaching research-based horticulture information. We want people to have important skills and abilities that help mitigate challenges and to understand that everyone has a role to play in creating and sustaining healthy and resilient communities.



## 2022 IMPACTS

- ✿ 2,848 Certified volunteers.
- ✿ 599 new volunteers trained.
- ✿ 16,728 hours learning to be a WSU Master Gardener.
- ✿ Volunteers gave 250,400 hours of their time to WSU and the communities served.
- ✿ Volunteers earned 31,948 hours of continuing education.
- ✿ 3,335 plant clinics offered across the state answered 11,600 questions.
- ✿ 3,327 residents learned about soil health.
- ✿ 2,636 residents learned about pollinators.
- ✿ 5,403 residents learned about vegetable gardening.
- ✿ 3,343 residents learned about water conservation and water quality.
- ✿ 3,126 residents learned about ecosystem biodiversity.
- ✿ 748 residents learned about climate change.
- ✿ 4,865 residents learned about the health benefits of being in and around plants and nature.
- ✿ 119 residents learned about wildfire preparedness.



# Local Food

## ISSUE

In 2021, 3.8 percent, or 5.1 million households, experienced extremely low food security, indicating that the food intake of household members was reduced, and normal eating patterns were disrupted due to limited resources. Among U.S. households with children, 6.2 percent, or 2.3 million households, faced food insecurity at times, as reported by ERS-USDA. The demographic most affected by food insecurity comprises female heads of households with children, lacking a spouse, and identified as black, non-Hispanic.

While food-insecure families in Washington state fall below the national average, pockets of food deserts persist across the state. Access to healthy local



foods is crucial, as it contributes to the improvement of both individual and community health.

Engaging in local food production diminishes the economic and environmental repercussions associated with the cultivation, processing, packaging, and transportation of food. Individuals with direct access to local food, whether through farmers markets, community gardens, or personal cultivation, tend to consume more fresh fruits and vegetables compared to those without such access. Consequently, these communities exhibit healthier BMI levels and a reduced risk of diabetes.

The establishment of community, home, and school gardens serves to connect people more closely to their food and to one another. This collective effort fosters a heightened awareness of food insecurity, empowering communities to make informed decisions about ensuring consistent access to healthy foods for their families, friends, and neighbors.

## RESPONSE

The Master Gardener Volunteer Program advocates for the adoption of sustainable methods in cultivating local food, aiming to enhance both individual and



community health and well-being.

- A total of 1,587 adults and 2,638 youth were educated on sustainable food gardening practices, as well as the positive impact that access to healthy foods can have on individual and community health.
- Responded to 1,178 inquiries concerning issues in vegetable gardening within the realm of food gardening.
- Conducted 164 classes on food gardening, covering the selection of vegetables based on family preferences and guiding the choice of suitable garden sites to ensure the thriving growth of selected plants.
- Organized 64 demonstrations, 98 workshops, and 98 field days focused on food gardening.

## RESPONSE continued

- Volunteers offer guidance and mentorship in 97 community gardens, fostering community unity in the pursuit of food security.
- Volunteers collaborate with young learners in 26 school gardens, where students actively participate

in cultivating their own food while gaining insights into fundamental science subjects.

- Volunteers concentrate on conducting food gardening workshops in recognized food desert areas, catering to marginalized communities, immigrant populations, and economically disadvantaged neighborhoods.



## PUBLIC VALUE

Annually, the WSU Extension Master Gardener Program contributes over 60,000 pounds of produce to food banks, providing approximately 438 individuals with a year's supply of nutritious fruits and vegetables. Collectively, participants estimate saving \$42,000 through the cultivation of their own food.



## DOING OUR PART

Incarcerated youth at the Juvenile Justice Center acquire employable horticulture skills, cultivate seedlings and food for donation, and gain insights into becoming valuable contributors to their community.

Recipients of Habitat for Humanity homes take part in a gardening mentoring program. Residents cultivate culturally significant and hard-to-find food in raised beds under the guidance of Extension Master Gardener volunteers.

Community garden participants learn and grow collectively, inspiring one another to sustain their gardening efforts.

An event centered on family seed-saving and vegetable

gardening engaged individuals ranging from 7 to 93 years old in the selection and planting of seeds. A grandmother found joy in watching her twin grandsons embrace gardening.

A series designed for first-time gardeners produces knowledgeable and confident participants, eager to enhance soil fertility, establish and maintain a food garden, and successfully harvest and store produce for consumption.

Master Gardeners collaborate with SNAP-Ed and food banks to ensure that community members utilizing food banks understand how to incorporate fresh produce into healthy meals.



# Soil Health

## ISSUE

Soil contains living organisms that, when cared for, provide the basic necessities of life – food, shelter, and water. Healthy soils provide ecosystem services critical for life. It acts as a water filter and a growing medium; provides habitat for billions of organisms, contributes to biodiversity; and supplies antibiotics. Humans use soil as a holding facility for



solid waste, filter for wastewater, and foundation for cities and towns. Soil is the basis of agroecosystems which grow feed, fiber, food and fuel. Increasing deforestation, soil compaction, and erosion factor into soil health degradation. According to Washington State University, there are [key soil health challenges](#) in Washington including compaction, erosion, nutrient imbalances, acidification, pests and pathogens and salinity and sodicity.

## RESPONSE

In 2022, the Washington State University Master Gardener volunteers taught about building healthy soils to prevent depletion and to ensure long-term



viability of local food and natural resources.

- 1166 adults learned about the importance of soil in natural ecosystems and the built environment.
- 1057 youth learned about the importance of soil in natural ecosystems and the built environment.
- 159 classes on building healthy soils to prevent depletion and ensure long-term viability of local food security and natural resources were taught.
- 92 workshops on building healthy soils to prevent depletion and ensure long-term viability of local food security and natural resources were hosted.
- 26 field days on building healthy soils to prevent depletion and ensure long-term viability of local food security and natural resources were hosted.

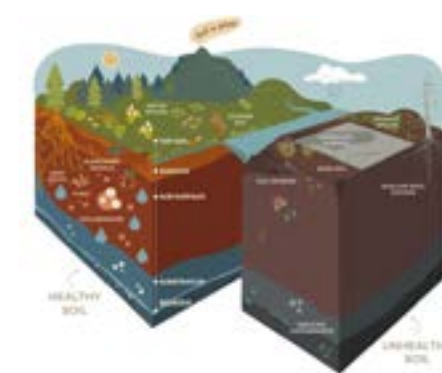


## PUBLIC VALUE

Individuals discover that sustaining healthy soils involves employing research-based, sustainable practices that incorporate sufficient residue and living plants, effectively minimizing erosion and preserving soil productivity.

For instance, in Grant and Adams Counties, WSU Extension Master Gardeners launched a soil health evaluation campaign called Soil Your Undies. Individuals, the general public, school groups and classes, and 4-H and FFA groups were encouraged to take the challenge. The goal was for people to learn about healthy soil characteristics and to evaluate their soil using a simple method: burying cotton underwear in the soil. Research shows that the more the underwear breaks down the healthier the soil. A large and diverse population of microbes and organisms is an indication of good soil health and healthy soils gobble up cotton underwear.

More than 50 pairs of cotton underwear were distributed and about 10 pairs were returned after being buried in the soil for two months. The image tells the



## DOING OUR PART

4-H youth buried a new pair of cotton underwear 3 inches below the surface and left the garment in the ground for a minimum of two months. At the 60-day mark, the underwear were dug up and the condition was evaluated and recorded. Most, if not all samples were deteriorated to such a degree that only the non-cotton waist bands and seams remained. The work of the soil microbes indicated that most soils in this experiment were healthy.



# Pollinator Health

## ISSUE

Pollination stands as a crucial ecological function vital for survival.

Nearly 80% of food-producing plants depend on animal pollination, primarily through creatures like bees. A noteworthy fact is that one in every four bites of the food we consume relies on a pollinator.



The global decline in insect pollinators poses a significant challenge to food security.

Beyond sustenance, pollination is essential for the reproduction of flowering plants, playing a role in erosion prevention, water filtration, carbon sequestration, and oxygen addition to the atmosphere.

Bees, pollinating approximately 90% of wild plants, are facing concerning trends. The Center for Biological Diversity reports that over half of native bee species are declining, nearly one in four is in jeopardy, and 40% of insect pollinators are under significant threat.

## RESPONSE

WSU Extension Master Gardener volunteers educate on methods to promote the thriving of native bees and other pollinators within home and community landscapes, fostering both a secure food supply and a biodiverse ecosystem.

- 1,108 adults and 455 youth were educated on the critical role of pollination in securing a stable food supply and fostering a biodiverse ecosystem.
- Extension Master Gardener volunteers addressed 618 questions about pollinator health and habitat from gardeners who attended plant clinics.
- A total of 110 classes delved into the importance of pollinator diversity, discussing the impact of human activities such as pesticide use, habitat destruction, air and light pollution, and invasive species on pollinator health.
- 48 demonstrations showcased strategies for promoting pollinator conservation, including creating habitats for native pollinators, opting for pesticide alternatives, using pesticides in pollinator-safe ways, and replacing lawns with landscaping plants friendly to pollinators.



- In 45 hands-on workshops, participants actively engaged in creating habitats for pollinators and learned the art of cleaning solitary bee nests.
- 19 field days provided participants with the opportunity to witness principles of pollinator health and habitat conservation in action.



## PUBLIC VALUE

1,600 community participants contribute to pollinator health, fostering food production, as well as promoting plant and insect biodiversity. They achieve this by cultivating plants that attract pollinators and applying pesticides appropriately.



## DOING OUR PART

“It was a very well thought out and interesting workshop with plenty of hands-on experiences. We learned a lot about mason bees and their habits, also had the chance to clean cocoons we brought to the class.”

The kids enjoyed the opportunity to clean and prepare bee cocoons and view them under a microscope.

In San Juan County, Extension Master Gardener volunteers installed mason and leaf cutter bee habitats in the Orcas Island School Garden. Hosting a workshop for twenty 5th-grade students and eight adults, the volunteers guided participants in harvesting and cleaning bee cocoons for winter storage. The attendees gained insights into the significance of native pollinators, pollinator life cycles, and strategies for creating nesting opportunities. Adult participants expressed their intention to incorporate and maintain mason and leaf cutter bee nesting materials in their own home landscapes.

In Grays Harbor and Pacific Counties, WSU Extension Master Gardener volunteers integrated the significance of pollinators into a seed-saving workshop designed to provide individuals with strategies

for cultivating their own food throughout different growing seasons. Attendees engaged in a seed bomb-making activity and were able to leave with clay seed bombs containing pollinator-attracting plants. The participants gained an understanding that pollinators and pollination play a crucial role in growing food and fostering a biodiverse garden, landscape, and ecosystem.

In Chelan and Douglas Counties, WSU Extension Master

Gardeners collaborated with the Department of Fish and Wildlife to establish a pollinator garden at the Leavenworth Fish Hatchery. Local school students utilize the garden as an educational resource to study plants, pollinators, and employ iNaturalist. Additionally, during the Salmon Festival, 1,500 students were educated about the crucial role of pollinators in the production of the food they consume.



# Water Conservation

## ISSUE

Water is a limited resource. Clean water, especially water that is usable by humans for consumption, is a non-renewable resource. Given weather patterns that are more erratic and drier than decades past, it is important to think about potential droughts that cause water shortages. It is estimated that home landscapes can unnecessarily triple the average homeowner's water consumption during the growing season. According to the EPA residential outdoor water use across the US accounts for nearly 8 billion gallons of water each day, mainly for landscape irrigation. Using water conserving design principles coupled with efficient irrigation delivery systems all play a role in water conservation.

## RESPONSE

WSU Extension Master Gardener volunteers teach water-wise gardening practices to reduce the amount of water needed for



healthy landscapes to ensure there is plenty of water in our lakes, streams, rivers and aquifers.

- 299 adults and 148 youth learned that water is a finite resource that needs conserving for the benefits of people, agriculture and the environment.
- Extension Master Gardener volunteers answered 913 water conservation questions from gardeners who attended plant clinics.
- 146 classes on water conservation and strategies for saving water in the home landscape were taught.



- Six demonstrations were held to show attendees strategies for saving water in the home landscape.
- Three hands-on workshops were held where attendees practiced water conserving gardening and irrigation principles.
- 16 field days allowed participants to see water conserving principles at work.



## PUBLIC VALUE

Individuals acquire knowledge about the significance of water conservation and come to recognize water as a finite resource. They also understand that landscapes consume a significant amount of water and learn about overarching principles for water conservation that can be universally applied.

For instance, in San Juan County, Extension Master Gardener volunteers taught classes on installing water conserving drip irrigation. Attendees learned how to install a drip irrigation system to maximize water conserving principles. 70% percent of attendees indicated they were either extremely likely or very likely to adopt water conserving landscaping practices

after attending the workshop by employing technologies that ensure only the minimal amount of water that is needed is applied by installing an efficient drip system.

## DOING OUR PART

Water conservation efforts are particularly important in the Spokane area because the aquifer is the only source of water for nearly half a million people. In fact, it is a sole source aquifer, which means it supplies at least 50% of the drinking water for its service area and there are no other available alternatives to provide drinking water should the source become contaminated.

Average household water use triples in the summer causing a net drawdown of the aquifer.

WSU Extension Master Gardener volunteers teach practical ways to conserve water.

- 68% of participants in water conservation classes will install drip irrigation.
- 68% of participants will create irrigation zones for watering use.
- 58% of participants will start using mulch.
- 58% participants will select native or drought tolerant plants.



# Water Conservation

continued



In Spokane County, Extension Master Gardeners partner with the city of Spokane Water Stewardship program 'SpokaneScape' to teach residents about water reducing principles through an outdoor demonstration and research garden. Formerly an unirrigated patch of weeds, a strip of land owned by the city and occupied by WSU Spokane County Extension is now a waterwise garden where extension master gardener volunteers can teach, demonstrate and practice the seven principles of water conservation in home landscapes including planning and design, soil preparation and improvement, efficient irrigation,

plant selection, practical turf areas, mulching and sustainable maintenance practices. 39% of attendees in classes indicated an increase in knowledge on drip irrigation and of designing irrigation by water needed; a 42% knowledge increase in proper mulching; 49% knowledge increase in selecting native and drought tolerant plants and a 51% knowledge increase in grouping plants according to water needs.

**BEFORE**



# Clean Water

## ISSUE

The significance of clean water extends to our health, communities, and economy. Upholding clean water upstream is crucial for the well-being of communities downstream. Approximately 117 million Americans – one in three people – rely on drinking water sourced from streams that were susceptible to pollution prior to the Clean Water Rule. The way we care for plants and manage soil in our home gardens and landscapes can impact water quality. The runoff or percolation of excess pesticides and fertilizers can ultimately find their way into surface and groundwater.

In Spokane County, over 500,000 individuals depend on the Spokane-Rathdrum Aquifer as their sole source of drinking water. Human activities directly above the aquifer can result in severe negative consequences for the availability of clean drinking water.

## RESPONSE

WSU Extension Master Gardener volunteers provide education on employing integrated pest management to prevent the introduction of harmful chemicals into our water systems and safeguard our pollinators.

- Responded to 2,781 public inquiries regarding the least

toxic methods for controlling pests in Plant and Insect Clinics.

- Conducted 67 adult classes and 14 youth classes on pesticide use, safety, and integrated pest management.
- Organized four demonstrations for both adults and youth, showcasing integrated pest management practices for pest control.
- Facilitated 16 workshops for adults and youth, focusing on integrated pest management practices for effective pest control in the landscape.
- Hosted 28 field days for both adults and youth, providing immersive experience with integrated pest management practices for landscape pest control.
- Educated 1,500 adults and 835 youth on the significance of clean water and how gardening choices impact water resources.
- Participants gained knowledge in applying fertilizers at recommended rates and times, identifying pests and diseases, minimizing or avoiding chemical use, and preventing soil erosion.



## PUBLIC VALUE

WSU Extension Master Gardeners safeguard clean water by instructing on the least toxic methods for controlling landscape pests such as weeds and harmful insects.

## DOING OUR PART

Results from an integrated pest management class assessment showed that 85% of participants gained a better understanding of pest management alternatives to pesticides.

Feedback from a lawn maintenance class indicated that 43% of attendees expressed an intention to modify their fertilizer plans in accordance with the research-based recommendations presented in the course.

One participant in an integrated pest management class learned the importance of accepting low levels of plant damage rather than resorting to pesticides. They shared, “I learned to ‘chill’; if the plant is healthy, it can probably tolerate some ‘gnawing,’ but be alert for serious infestations.”

Another attendee discovered the existence of beneficial insects alongside pests and emphasized the need to “beware of broad-spectrum (insecticide) applications” that could harm

beneficial insects and potentially impact groundwater.

A grateful visitor to the plant and insect clinic expressed appreciation in a thank-you note, stating, “Thank you so much for sharing your time and expertise with me. From mulch to aphids, the Master Gardener Clinic has been key to empowering me with the information to keep my garden thriving.” - Ariana L.

# Climate Change

## ISSUE

Our changing climate with warmer winters, hotter summers, and extreme weather events like flooding and droughts has a significant impact on plant growth and the various organisms that interact with plants, including insects, pollinators, diseases, and microbes. In this context, home gardeners play a crucial role in addressing climate change and fostering resilience.

Key practices for climate-conscious gardening include:

- **Human-Powered Tools:** Opt for human-powered tools like push mowers, rakes, and hand clippers instead of gas-powered tools such as lawn mowers and leaf blowers. This choice contributes to a reduction in greenhouse gas emissions.



- **Resilient Plant Choices:** Select plants that are resilient and well adapted to your local soil and climate conditions. Choosing climate-appropriate and native plants enhances the overall resilience of your landscape.

- **Research-Based Horticulture Practices:** Implement research-based horticulture practices to effectively manage soil health. This includes techniques to conserve water, improve soil structure, and optimize nutrient levels.

- **On-Site Composting:** Engage in on-site composting to close the waste loop, reducing the need for landfill disposal. Composting not only yields valuable nutrients for your garden but also helps minimize methane emissions associated with landfill decomposition.

By incorporating these practices, home gardeners contribute to a more sustainable and climate-resilient environment, mitigating the impact of climate change on plant life and the broader ecosystem.



## RESPONSE

The Master Gardener program is dedicated to educating and empowering communities to create resilient landscapes that adapt to the changing climate and mitigate the effects of climate change. Here are key achievements related to climate resilience:

- **Climate Change Questions:** Extension Master Gardeners addressed 1,100 climate change-related questions, providing valuable information and guidance to the community.
- **Education Outreach:** Reached 71 youth and 530 adults with research-based practices for gardeners, equipping them with knowledge to create climate-resilient landscapes.
- **Educational Classes:** Organized one class for youth and 116 classes for adults, focusing on practical steps to build resilient, climate-friendly landscapes.

## RESPONSE continued

- **Workshops:** Hosted two workshops for youth and eight workshops for adults, offering hands-on experiences for building climate-resilient landscapes.
- **Demonstrations:** Conducted three demonstrations for adults, providing opportunities for

participants to deepen their understanding of creating a climate-resilient garden.

- **Field Days:** Organized 15 field days, facilitating in-depth interactions to connect participants more closely with the principles of climate-resilient landscaping.

Through these initiatives, the Master Gardener program actively engages the community in building knowledge and practical skills to foster climate resilience, creating landscapes that can thrive in the face of a changing climate.

## PUBLIC VALUE

Seventy percent of participants in attendance at climate-friendly gardening classes will adopt principles like composting, mulching, choosing climate adapted plants, soil conservation, increasing plant diversity, reducing turf area, and increasing tree canopy in addition to using human-powered tools and decreasing chemical use.



## DOING OUR PART

The San Juan County Extension Master Gardeners made a significant impact with their *Resilient Gardens in a Changing Climate* workshop series, engaging 220 participants. Evaluations from the participants highlight the effectiveness of the workshops in inspiring positive changes in gardening practices, specifically incorporating climate-friendly principles.

Key observations include:

- 🌱 **Likelihood to Change Practices:** Evaluations indicate that the majority of participants are extremely likely to change their gardening practices. This demonstrates the effectiveness of the workshop series in influencing participants toward more climate-conscious approaches.
- 🌱 **Climate-Friendly Principles:** Participants express a commitment to climate-friendly principles such as mulching, reducing lawn areas, making thoughtful plant selections, and enhancing soil health.
- 🌱 **Educational Impact:** Participants found the workshop series very useful in helping them understand how to prepare for a changing climate. The program successfully conveyed the importance of mulching, water conservation, and the

significance of planting more trees for creating a climate-resilient landscape.

The feedback underscores the success of the workshop series in not only imparting knowledge but also motivating participants to adopt practical and impactful climate-friendly gardening practices. The emphasis on mulching, water conservation, and tree planting reflects a comprehensive understanding of creating resilient landscapes in the context of climate change.



In Mason County volunteers taught a class on gardening in a drier climate. The class proved to be both informative and insightful for the 32 attendees. It effectively addressed the concerns of participants and provided valuable insights and knowledge on fire-wise and drought-tolerant landscaping, empowering them to make informed decisions for a more resilient and sustainable garden in a drier climate.

Key takeaways from the class included:

- 🌱 **Concerns about Wildfire:** 56% of attendees expressed concerns about wildfires in their area, highlighting the relevance and importance of addressing fire-related issues in gardening practices.
- 🌱 **Knowledge Gained on Fire-Wise Landscaping:** 52% of attendees felt they learned a lot about fire-wise landscaping, while 44% indicated that they learned some new concepts. This indicates a positive impact of the class in enhancing participants' understanding of landscaping practices to mitigate wildfire risks.
- 🌱 **Existing Drought-Tolerant Plants:** A significant 78% of attendees already had existing drought-tolerant plants in their landscapes, showcasing a proactive approach to water-conscious gardening.
- 🌱 **Learning about Drought-Tolerant Landscaping:** 56% of attendees felt they learned a lot from the presentation on drought-tolerant landscaping, while 44% believed they gained new concepts. This demonstrates the effectiveness of the class in educating participants on creating water-efficient and resilient landscapes.



# Plant Biodiversity



## ISSUE

Earth's biodiversity, the diversity of life across all levels, is on the decline. Animal and plant species are facing extinction at a rate far surpassing the natural pace. Biological diversity acts as a safeguard against declines in ecosystem functioning. Recognizing and comprehending local environmental issues serves as a catalyst for taking action to preserve native and vulnerable plant and animal species. Practices like reducing lawns, managing invasive plants, and promoting the use of native plants contribute to supporting biological diversity, extending from individual backyards to broader bioregions and beyond.

## RESPONSE

The Master Gardener Volunteer Program actively promotes the stewardship of diverse ecosystems by engaging in invasive species management, conservation of native species, and landscape restoration, ultimately contributing to the establishment of healthy, thriving, and diverse ecosystems.

Following are some key achievements and activities:

- Educational Outreach:** Reached a total of 5,360 adults and 1,120 youth to raise awareness about the significance of biodiversity.



- Expert Guidance:** Extension Master Gardeners provided answers to 2,637 questions related to biodiversity.
- Classes:** Conducted 114 classes for adults and 25 classes for youth, focusing on biodiversity and emphasizing the importance of invasive species management.
- Demonstrations:** Organized five demonstrations for adults and four for youth, offering attendees a visual understanding of what biodiversity entails.
- Workshops:** Held five workshops for adults and ten for youth, providing practical knowledge and tools to support biodiversity efforts.
- Field Days:** Organized 33 field days for adults and eight for youth, creating immersive experiences to further connect participants with biodiversity initiatives.



During one visit to the prairie, volunteers were rewarded with the sighting of a slender-billed white-breasted nuthatch, a bird that is becoming increasingly rare in the region. This underscores the significance of the restoration work in preserving not only plant species but also the broader ecosystem and its diverse inhabitants.

## PUBLIC VALUE

A total of 6,500 individuals participated in educational sessions to gain insights into making impactful changes within their homes, landscapes, and gardens. These sessions aimed to empower attendees to contribute to safeguarding ecosystem functioning within their communities.

## DOING OUR PART

The Lacamas Prairie Natural Area, situated in East Clark County, stands as Washington's most resilient remnant of the diminishing ecosystem known as Willamette Valley wet prairie. This ecosystem, which once spanned over 1 million acres along the Willamette and Columbia rivers, now finds a critical refuge in this area. Lacamas Prairie is particularly notable for hosting the largest population of Bradshaw's lomatium, an endangered perennial herb, along with five

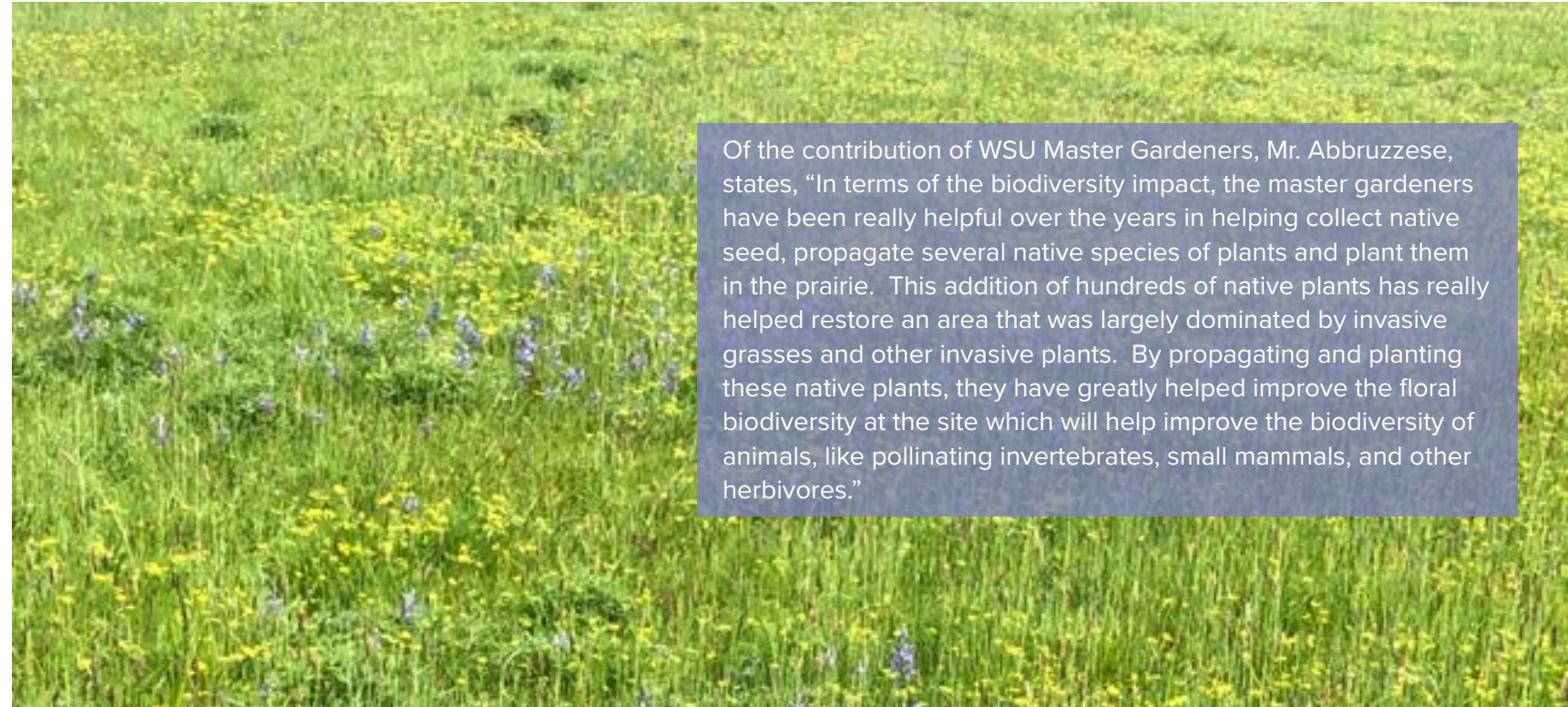
other rare plant species.

In collaboration with Carlo Abbruzzese from the Washington Department of Natural Resources, WSU Extension Clark County Master Gardeners play a pivotal role in the ongoing restoration efforts for this 211-acre site. Volunteer efforts include seeding numerous trays with various prairie plant species, such as Bradshaw's lomatium, tufted hairgrass, dense sedge, two species of buttercup, Camas

lily, and Idaho blue-eyed grass. The objective is to bolster the populations of these species. Volunteers diligently monitor germination rates, provide summer watering, and plant out the young plants in both spring and fall. Additionally, summer visits involve weeding, while fall activities focus on seed collecting.



WSU Extension Clark County Master Gardeners propagated native plants needed for the Lacamas Prairie Natural Area, situated in East Clark County, Washington.



Of the contribution of WSU Master Gardeners, Mr. Abbruzzese, states, "In terms of the biodiversity impact, the master gardeners have been really helpful over the years in helping collect native seed, propagate several native species of plants and plant them in the prairie. This addition of hundreds of native plants has really helped restore an area that was largely dominated by invasive grasses and other invasive plants. By propagating and planting these native plants, they have greatly helped improve the floral biodiversity at the site which will help improve the biodiversity of animals, like pollinating invertebrates, small mammals, and other herbivores."



# Wildfire Preparedness

## ISSUE

Wildland fires annually wreak havoc on homes and properties in the wildland-urban interface, which refers to areas where homes are constructed near or amid lands susceptible to wildland fires. Research indicates that up to 80 percent of homes lost to wildland fires could have been preserved if the vegetation around the homes was cleared, and defensible space was established around structures. Implementing proper planning and landscape practices is instrumental in minimizing the risk of wildland fires damaging or destroying property.

## RESPONSE

Extension Master Gardeners play a vital role in addressing fire-resistant landscaping inquiries, showcasing related practices and principles, and educating communities about the risks of wildfire-induced losses. Participants in these programs gain insights into identifying



and creating ‘defensible space,’ understanding various fire defense zones, recognizing potential fire ignition sources that can harm homes, and selecting suitable plants to establish defensible space in their home landscapes.

- Extension Master Gardeners responded to 297 questions in plant clinics, aiding clients in comprehending and implementing defensible space around their homes.
- They conducted 33 classes for both adults and youth, emphasizing optimal landscaping practices for wildfire preparedness.
- Five workshops were organized, offering hands-on experiences to learners interested in fire-resistant landscaping practices.

- Three field days were held to provide participants with tangible experiences, helping them visualize and better understand fire-resistant landscaping practices and principles.



## PUBLIC VALUE

Extension Master Gardeners impart fire-resistant landscaping principles that play a crucial role in fostering resilient communities and diminishing the risk of loss caused by wildfires.

## DOING OUR PART

The Extension Master Gardener Program in Spokane County collaborates with local agencies such as the Washington Department of Natural Resources, Conservation Districts, and Forestry Programs to provide essential wildfire preparedness training to extension master gardener volunteers, arborists, and landscapers. Participants receive education on fire ecology and history, creating defensible space, understanding the home ignition zone, and learning about plant adaptations to wildfires.

Through the partnership between the WSU Extension Spokane County Master Gardener Program, the Spokane County Conservation District, and the Washington DNR, three WSU EMG volunteers underwent follow-up fire risk assessments on their properties. As a result, two of these assessments led to DNR grant-assisted work being

carried out on properties in the Spokane County Wildland-Urban Interface (WUI). The third assessment, while ineligible for grant assistance, prompted the homeowner to take proactive measures on their property.

In Chelan and Douglas Counties, volunteers collaborate with the Wenatchee Regional Fire Department to establish vegetative fire breaks around the city of Wenatchee. They also worked with a prominent homeowners’ association to devise a vegetation plan and secured a grant for its implementation. Additionally, they partnered with a senior



center to create a fire-resistant landscape around the facility. These initiatives underscore the proactive measures taken by Extension Master Gardeners to enhance wildfire resilience in their communities.



Firewise logo placed on plant signs at a Master Gardener education garden.



# Nearby Nature

## ISSUE

With over 80% of the U.S. population and more than 50% of the global population residing in urbanized areas, the nature present in cities and towns, such as parks, gardens, trees, small landscapes, and natural areas, offers tangible benefits. These advantages encompass enhanced air and water quality, energy conservation, and a reduction in urban heat island effects. Research indicates that exposure to nature positively influences human physical and mental health, as well as overall quality of life.

Given the dense populations of urban areas, the presence of nearby nature has the potential to benefit hundreds to thousands of people on a daily basis. Moreover, nature in urban areas contributes to a “green infrastructure” that can be strategically planned and integrated with built systems, fostering the creation of more sustainable urban environments, drinking water.

## RESPONSE

The impact of the program is evident in the following accomplishments:

- Volunteers diligently responded to 4,229 questions from the public.

- They conducted 175 classes tailored for adults and an additional 32 classes designed specifically for youth.
- A total of 81 demonstrations were organized for adults, along with four demonstrations catering to youth.
- Workshops were held, with 83 sessions for adults and 26 sessions for youth.
- Field days were organized, providing immersive experiences through 93 sessions for adults and 12 sessions for youth.
- A substantial number of individuals benefited, with 3,600 adults and 2,600 youth acquiring sustainable horticulture skills.
- Participants gained insights into the numerous health benefits associated with being in nature, learned to select appropriate plants for specific spaces, adapted gardening practices for physical limitations, and acquired skills in designing and maintaining landscapes.



These achievements highlight the program’s commitment to education, community engagement, and the promotion of sustainable horticulture practices for individuals of all ages.



## PUBLIC VALUE

WSU Master Gardeners play a crucial role in enhancing community resilience by actively engaging with people, plants, greenspaces, and public landscapes. Their efforts contribute to the improvement of physical and mental health within the community, fostering a more robust and resilient environment for all.

## DOING OUR PART

The King County Master Gardeners have established valuable partnerships, demonstrating their commitment to community education and engagement:

### Collaboration with Bellevue Botanical Garden:

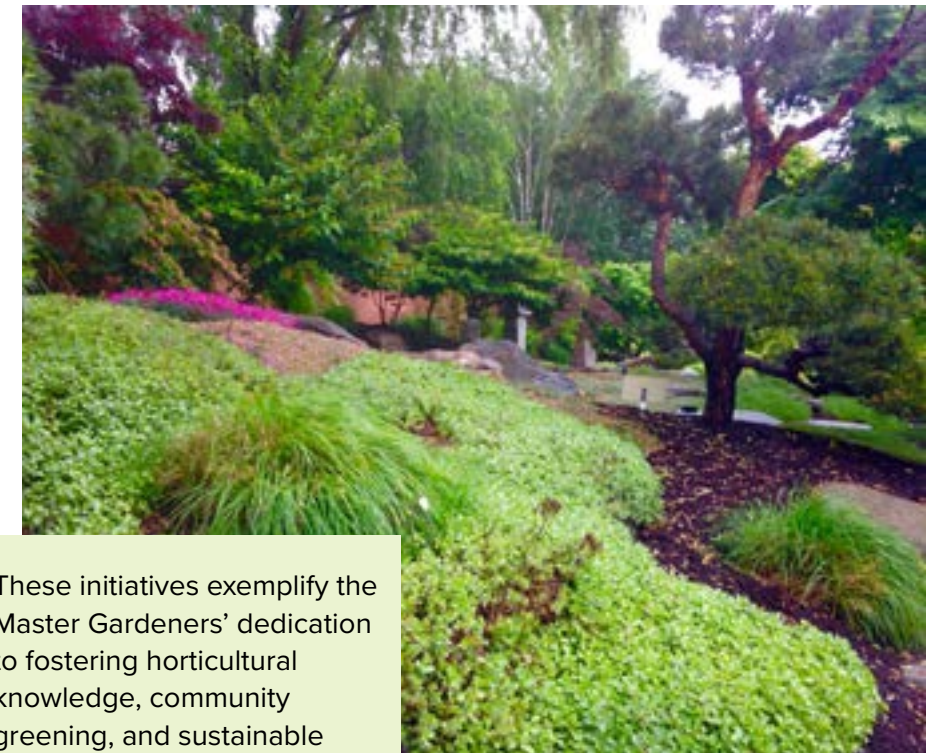
The Master Gardeners in King County have partnered with the Bellevue Botanical Garden to host classes for adults on various gardening topics.

These classes cover gardening with children, container gardening, and the use of ornamental grasses in small landscapes, showcasing ways to bring greenspaces and their associated benefits to urban environments.

### Community Housing Program Engagement:

King County Master Gardeners actively engage with a community housing program to equip residents with skills in rooftop gardening.

Residents receive guidance on selecting the right plants, understanding rooftop garden hazards, and managing different soil types, thereby promoting rooftop gardening within the community.



These initiatives exemplify the Master Gardeners’ dedication to fostering horticultural knowledge, community greening, and sustainable gardening practices in urban settings.

