



# Be a Citizen Naturalist

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BULLETIN

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“**E**very day our relationship with nature, or the lack of it, influences our lives. This has always been true. But in the 21st century, our survival — or thrival — will require a transformative framework for that relationship, a reunion of humans with the rest of nature.”

— Richard Louv,  
*The Nature Principle*



All it takes to be a citizen naturalist is a love of nature and the desire to learn and engage with the natural world.

Author Richard Louv appeared on the national scene in 2005 like a latter-day prophet. His best-selling book, *Last Child in the Woods*, was a wake-up call that today's children are losing out on the personal experiences with nature that most of us adults knew in our formative years. At about the same time, the Arbor Day Foundation was responding to this phenomenon — this need — by joining with the Dimensions Educational Research Foundation to introduce the Nature Explore program, including its research-based Nature Explore Classrooms for young children.

But adults need nature experiences, too. Louv has recognized this need in his later book, *The Nature Principle*. He says the principle is “that a reconnection to the natural world is fundamental to human health, well-being, spirit, and survival.” Blogger Jill Glover observed in *This City Life*, “... my generation spends more time loving our iPhones and drinking craft beers at a hip new downtown pub than hugging trees.”

Both Louv and Glover have illustrated that there is too often a disconnect between adults and nature. This is true not only for the relatively young adults of the millennial generation, but also for more senior citizens who have fond memories of their connection with nature but have lost this connection as they've traveled through life.

*Bulletin No. 85* shows why reconnecting with nature is important and how easy it can be to tap into the myriad opportunities to be what we call the “citizen naturalist.” Some call it “citizen scientist,” but by whatever name, it means engaging with nature and natural resources without this being one's profession. The point is, whether a loner nurturing a desire to learn and be outdoors or an outdoor-oriented extrovert looking for more social experiences, there are many ways to reconnect with nature, find outdoor enjoyment, and benefit both self and society.

# The Need

*Being a citizen naturalist provides a needed service to the community and the environment as a whole. It is also a dual opportunity that provides a gift to the giver.*

## YOUR HELP IS NEEDED

Agencies and organizations are in dire need of volunteers to help carry out their missions and responsibilities. Budgets today are simply inadequate to serve all the needs of our communities or the nation. Urban forestry departments, nature centers, parks, and other natural resource management agencies are often underfunded.

From a broader standpoint, nature needs a helping hand. It has been said that ultimately, saving nature is the only way to save ourselves. Consider just a few of the myriad issues facing our environment and how action by citizen naturalists can help:



Students from Rutgers University volunteer to help plant trees on their campus.

## OUR PRECIOUS WATER

Less than 1 percent of the fresh water on Earth is readily accessible for human use.



Protecting clean water is vital to our prosperity and survival. Marking storm drains in neighborhoods with reminders that dumping oil or other pollutants kills fish is a project for individuals working alone or in groups. Other partner groups help with stream restoration.



Clean streams begin in no small part with clean water going into street drains. Placing reminders (shown above) is a good project for volunteers working alone or in groups.

## TREES HELP CLIMATE CHANGE

CO<sub>2</sub>, methane, and other greenhouse gases occur naturally, but human activities have released greenhouse gases that are destabilizing the climate and are now at the highest levels in 3 million years.



There are many benefits to having healthy trees in our communities, but their sequestration of carbon and other air-cleansing effects is increasingly important. Many communities need volunteers to help plant and care for trees.



TreeKeepers and similar community organizations offer an excellent opportunity for learning and service.

# – and the Rewards

## FOOD SUPPLIES

Our global population is more than 7 billion and growing by roughly 83 million people every year.



Internationally, and locally in underserved neighborhoods, healthful food is a critical need. Urban orchards, permaculture, and efforts such as the Arbor Day Foundation's Hazelnut Project depend in large part on interested lay people.



Partners in the Arbor Day Foundation's Hybrid Hazelnut Project are asked to record information about their hazelnut bushes and to keep an eye out for wild hazelnuts.

## HELP OTHERS LEARN

Naturalist/philosopher Aldo Leopold wrote, "There are two spiritual dangers in not owning a farm. One is the danger of supposing that breakfast comes from the grocery, and the other that heat comes from the furnace." It is a challenge

to citizen naturalists to help modern society understand the importance of nature and natural resources and the interconnectedness of all life. Nature centers and conservation education programs are ways to make this possible.

There are many reasons to become a citizen naturalist, but here are a few of the benefits.

- ✓ **PURE ALTRUISM** Any individual can take an active part in making the world a better place in which to live. Becoming a citizen naturalist is a way to get one's hands dirty, so to speak, and to make a difference. It is also an opportunity to share your love of nature with others, especially young people, many of whom live in a digital world. But even the most altruistic of motivations has personal rewards. Dr. Stephen Post, author of *Why Good Things Happen to Good People*, points out that brain functions receive pleasure from giving service: "When we do good deeds, we're rewarded by a dopamine pulse. Giving a donation or volunteering in a food bank tweaks the same source of pleasure that lights up when we eat or experience intimacy. It's clear that helping others, even at low thresholds, creates mood elevation."
- ✓ **PERSONAL HEALTH** Being a citizen naturalist usually provides a good excuse to shed the routines of sedentary, indoor life and get exercise and fresh air. But most of the health benefits are mental. *Tree City USA Bulletin No. 71, The Healing Power of Trees*, describes many of these, but at the core of these beneficial effects is stress reduction. Tuning out daily concerns and tuning in to the sights and sounds of nature can actually reduce blood pressure. One research project found that for older adults, having just 10 percent more green space in their living environments leads to a decrease in the number of poor health symptoms — making their symptoms comparable with someone five years younger.
- ✓ **STAYING MENTALLY SHARP** Physicians and organizations that serve senior citizens invariably advise them to exercise the brain in order to maintain cognitive functions such as memory, processing speed, and reasoning ability. Often they prescribe playing computer games, solving crossword puzzles, or taking courses designed to stimulate thinking. What better way to achieve the same purpose than through the continuing education offered by nature.
- ✓ **SOCIAL LIFE** For many, making new friends is often a challenge. Joining others with an interest in nature or the management of our natural resources is a great way to enjoy the social benefits of being with others who are like-minded in many ways, yet come from excitingly diverse backgrounds.
- ✓ **ADDING MEANING TO LIFE** Environmental psychologist Dr. Peter H. Kahn Jr., author of *Technological Nature: Adaptation and the Future of Human Life*, suggests that too many people today believe we can adapt to our environment and circumstances, so why worry about it? He points out that "humans flourishing matters just as much as humans existing. Toward that end we need to re-vision what is beautiful and fulfilling ..." He compares a caged animal in a zoo with one in the wild and says we are caging ourselves. Being a citizen naturalist is one way to get out of our modern cages, expand one's horizons, and add meaning to life.

# So Many Opportunities

*Whether you want to learn and enjoy nature by yourself or join a group to provide service, opportunities abound. Here are a few examples, including ideas that might be adopted by a tree board looking for ways to expand service and engage more people of all ages.*

## TAKING STOCK OF OUR ENVIRONMENT

### ***USA National Phenology Network***

Phenology refers to key seasonal changes in plants and animals from year to year, especially their timing and relationship with weather and climate. For all who enjoy observing the annual rhythm of nature and would like to help “Take the Pulse of Our Planet,” the USA National Phenology Network is worth exploring. The Network is sponsored by the U.S. Geological Survey in cooperation with a host of universities, agencies, and other organizations, and it welcomes local partners. It promises to “connect people with nature to benefit our changing planet” through observations by amateur and professional naturalists who help build a national database used by scientists and decision makers. Participation ultimately helps in the assessment of global change on natural ecological systems and is based on records of what date various trees and other plants break bud or produce flowers, when fruit is harvested, when leaf fall occurs, and similar annual events. Nature’s Notebook is the online method used to submit observations and generate the long-term data sets that lead to discovery and a factual foundation for discussions and decisions about our environment. Training and instructions are provided.



Phenology is a great way to provide purpose to plant and animal observations by both amateurs and professionals. It also provides service to our nation as we try to understand the consequences of global change.

### **HOW TO GET INVOLVED**

Links to all organizations and projects mentioned on these pages can be found by going to [arborday.org](http://arborday.org) as described on page 8.

### ***The Global Biodiversity Information Facility***

Another way to serve as a citizen naturalist and contribute to an important cause is through the Global Biodiversity Information Facility. Its goal is to create “a world in which biodiversity information is freely and universally available for science, society, and a sustainable future.” It allows anyone, anywhere to access data online about all types of life on Earth. The information is displayed by country and occurrence and is drawn from a variety of sources to which citizen naturalists can contribute their observations. These include:

- iNaturalist
- eBird
- FrogWatch USA
- Encyclopedia of Life

### ***Join a BioBlitz***

A fun way to join others, learn, and gather information for larger databases is to find out when there will be a BioBlitz in your area. These are sponsored by National Geographic, and the idea is to find and identify as many species as possible in a specific area over a short period of time, such as three hours. Under the guidance of an expert such as a local scientist or urban forester, families, teachers, and other community members work together to get an overall count of the trees, plants, animals, fungi, and other organisms that live in a designated area, such as a park or schoolyard. This could even be an Arbor Day activity. Guidance is provided at National Geographic’s website, [nationalgeographic.com](http://nationalgeographic.com).



A BioBlitz can lead to discovery of new species in an area or, when repeated over time, changes in the environment.

## LEARNING AND SERVING YOUR COMMUNITY

### *Master Gardeners*

Cooperative Extension founded the Master Gardeners program in 1972 in the state of Washington. It has now expanded to every state in the nation and eight Canadian provinces. You don't have to be an expert to join this program. In fact, it begins with 40 hours of classroom instruction, a comprehensive manual, and field experiences before participants "pay back" by providing information to others and conducting service projects in their communities. Topics of interest go beyond gardens and include plant taxonomy, plant diseases, entomology, nuisance wildlife management, tree care, and others. Cooperative Extension offers classes once or twice a year.



Future Master Gardeners participate in classroom instruction before eventually sharing their knowledge with residents in their communities and participating in service projects.

### *Master Naturalist*

Many states have Master Naturalist programs. Texas serves as a good example with 46 local chapters in nearly 80 percent of the state's counties. It is sponsored by the Texas Parks & Wildlife Department and Texas A&M AgriLife Extension. The



Master Naturalist participants have opportunities to serve through providing information to others and helping with myriad outdoor projects.

purpose is to develop a group of well-trained volunteers to provide education, outreach, and service dedicated to the conservation, preservation, and restoration of the state's natural resources. Activities range from designing nature trails to conserving habitat or planting wildflowers and operating parks, nature centers, and natural areas. Like the Master Gardeners program, participants receive 40 hours of classroom and field instruction, complete eight hours of approved advanced training, and must log at least 40 hours of volunteer service. To retain the Texas Master Naturalist title, eight additional hours of advanced training are required every year, as well as 40 more service hours. Since its inception in 1997, this model program has:

- Clocked about 3 million hours of service valued at more than \$65 million.
- Developed and maintained nearly 2,000 miles of trail.
- Enhanced about 220,000 acres of wildlife and native plant habitat.
- Reached more than 4.3 million youth, adults, and private landowners with conservation information.

To date, about 10,000 residents have become Master Naturalists, and one even discovered a new plant species!

# So Many Opportunities (continued)

## *Tree Keepers and Tree Stewards*

They go by different names, but for anyone who is interested in learning more about tree care and getting some exercise, volunteering as a TreeKeeper or Tree Steward is the way to go. These programs are usually under the direction of the city forester or park staff and provide needed services while at the same time offering social interaction and broader education, not only about trees but other components of the urban ecosystem. For individuals who may have physical limitations, there are usually office opportunities, tree inventory management, staffing fair booths, school program presentations, and similar activities.



## *Trees Atlanta Engages Citizen Scientists*

The nonprofit organization Trees Atlanta provides an example of what a local organization or tree board can do to help residents interact with nature. Its program, Citizen Science, offers an excellent way to engage lay people with the care of trees and other natural resources through planned activities. In addition to planting trees and providing guided arboretum tours, Trees Atlanta offers:

- **CITIZEN SCIENCE SATURDAYS** These programs vary, but an example of one is the chance to learn how to identify trees, measure them, and compare temperatures between areas shaded by tree canopies and non-treed areas.
- **LUNCH AND LEARN** Each month a brown bag lunch event is held for the public. Staff, crew members, or volunteers present programs focused on environmental topics. For example, Atlanta artist and TreeKeeper Teri Nye provided an introduction into the art (and science) of documenting nature with field sketches.
- **MAPPING NON-NATIVE INVASIVE SPECIES** This project includes involving residents in locating and mapping the intensity of invasive plants such as Chinese privet and English ivy in the city's 180-acre nature preserve.

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(Left) Throughout the nation, communities offer volunteer opportunities that teach about tree care and lead to service projects such as planting, mulching, pruning young trees, and other weekend or evening activities.

(Below) Residents in Atlanta, Georgia, have many opportunities to engage with nature and help Trees Atlanta to preserve and expand the green attributes of the city.



## Seattle's Tree Map

Seattle is one of a growing number of cities that have subscribed to OpenTreeMap. This is a collaborative computer platform that enables crowdsourced tree inventory. This means that, as a citizen naturalist, you can add a tree to an online map, complete with a description, photo, and other information about the tree. The computer program then uses the information to calculate the ecoservices provided by that tree. It also provides summaries for all trees in the city, specified neighborhoods, or districts. An additional benefit is that anyone with a computer can then use the map to locate trees of interest.

This marvelous program can be used by individuals, tree boards, or other groups working together. In Seattle, the interactive tree map project is under the auspices of the local Audubon Society as a way to map and enhance the urban forest habitat for birds and document other benefits. The organizers say, "By creating and contributing to a dynamic and reliable city tree map to monitor the health, size, and diversity of the urban forest, we will gain a better understanding of Seattle's urban habitat." Participants are asked to attend a training session, but gathering and providing the information is easy and enjoyable

## NATURE CENTERS

For anyone with either a special interest or a general interest in everything related to the outdoors and the environment, a nature center is the ideal place to join or volunteer. There are hundreds throughout the country, some operated by a municipality or county, some by organizations like the Audubon Society, and some by nonprofits. A list can be found by visiting the website shown on page 8. As a citizen naturalist, working at a nature center provides an excellent opportunity to learn and grow, make friends with kindred spirits, provide service of all kinds, and help educate visitors about the natural world.



**Seattle Tree Map**  
 Working to document, map, and enhance Seattle's urban forest habitat for birds and nature.

Home > Map > Search Results

Search for trees in **Seattle** Login or Sign up Add a tree

**Yearly Eco Impact<sup>o</sup>**  
 Found 127,001 trees

- Total Benefits**  
\$1,947,429.18 saved
- Greenhouse Gas Benefits**  
20,843,485.79 lbs CO2 reduced  
\$69,617.24 saved
- Water Benefits**  
56,454,655.84 gallons conserved  
\$1,568,874.89 saved
- Energy Benefits**  
2,694,400.03 kWh conserved  
\$274,926.20 saved
- Air Quality Benefits**  
91,275.12 lbs pollutants reduced  
\$34,010.86 saved

Map data ©2016 Google. Terms of Use Report a map error.

Export options: KML CSV Shapefile

Citizen naturalists in Seattle and other cities that use OpenTreeMap can add trees, update information about them, or find trees of interest on the interactive map.



The Pioneer Park Nature Center in Lincoln, Nebraska, offers opportunities for volunteers to connect with visitors and share their knowledge of nature at the 668-acre park and wildlife sanctuary.

# Getting Connected

For anyone who wants company sharing his or her love of nature or wants to volunteer to help in the stewardship of our city trees and natural resources, there is opportunity in virtually every community.

- Inquire locally if you are new in a community. The Parks & Recreation Department or your city forester would be good places to start.
- Go to [arborday.org/bulletins](http://arborday.org/bulletins) and click on “Supplemental Resources Library.” On the page for *Tree City USA Bulletin No. 85*, you will find links to organizations mentioned in this issue, including one that will take you to all the nature centers and environmental education centers in your state.

## More help from the Arbor Day Foundation

There are lots of ideas about volunteering that can be found at [arborday.org/takeaction/volunteer](http://arborday.org/takeaction/volunteer).

Sometimes lay people are reluctant to volunteer or join with others because they feel they have an inadequate knowledge of local trees. To help overcome this problem, *What Tree Is That?* has been created and is available in booklet form, online, and as an app for mobile devices. There are eastern and western editions, and both are illustrated, easy-to-use keys to identifying trees. More information is available by going to [arborday.org/whattree](http://arborday.org/whattree).



Volunteers are needed in virtually every community. Anyone who considers themselves a citizen naturalist can find others with similar interests and lots of opportunities to learn, grow, and be a steward of our natural world.

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All Tree City USA Bulletins may be of interest to citizen naturalists, but here are some that may be particularly helpful. To order a complete set, see the bottom of this coupon.

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