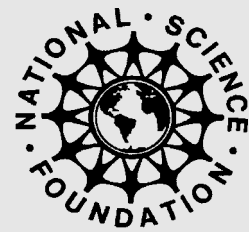
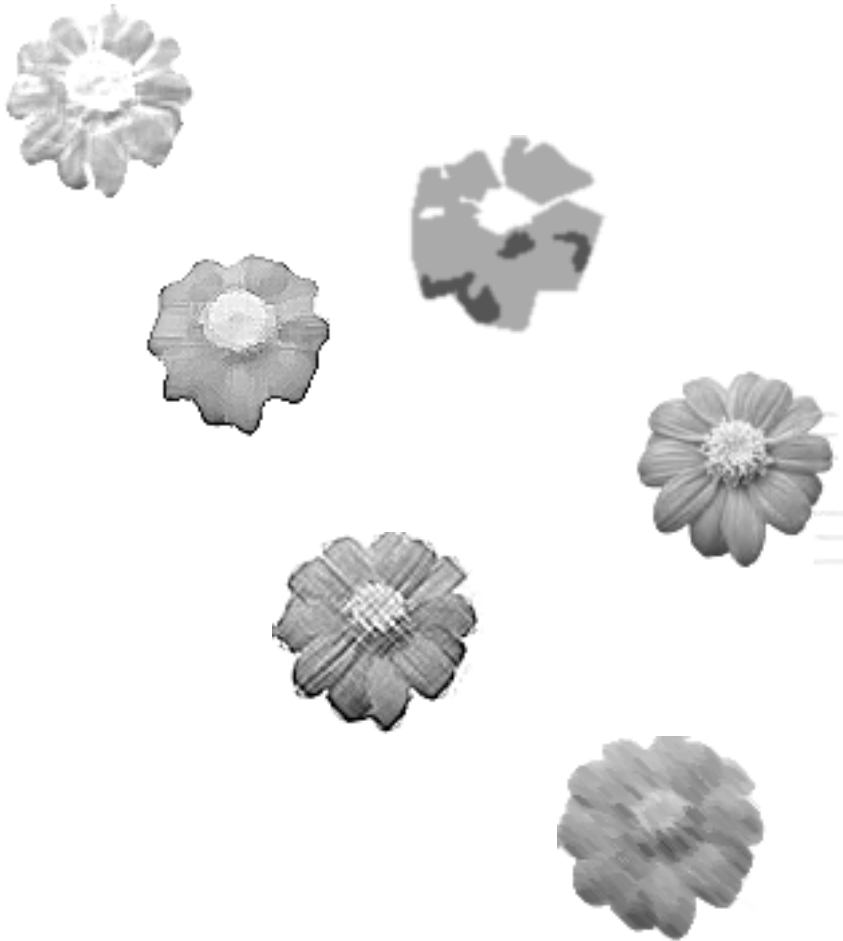


**Citizen Science
Toolkit Conference**

June 20 - 23, 2007

engaging cooperative extension
volunteers in citizen science

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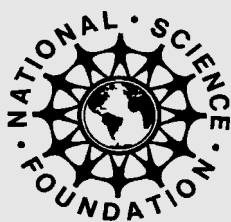
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This presentation took place at the Citizen Science Toolkit Conference at the Cornell Lab of Ornithology in Ithaca, New York on June 20-23, 2007.

Note that this document did not originate as a formal paper. Rather, it is a record of oral presentation and reflects the more informal, idiosyncratic nature of a delivery prepared specifically for this live event.

Documentation of the conference is meant to serve as a resource for those who attended and for others in the field. It does not necessarily reflect the views of the Cornell Lab of Ornithology or individual symposium participants.



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Any opinions, findings, and conclusions or recommendations expressed in this documentation are those of the authors and do not necessarily reflect the views of the National Science Foundation.

The following is one of three focus point presentations delivered on day three of the Citizen Science Toolkit Conference as part of the session titled "Community Building for Citizen Science."

For complete documentation of conference proceedings and to learn more about citizen science and the Citizen Science Toolkit, or to join the ongoing citizen science community, go to:

<http://www.citizenscience.org>

Engaging Cooperative Extension Volunteers in Citizen Science

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Overview: Cooperative Extensions

One hundred percent of my effort is outreach for Cornell Cooperative Extension's Garden-based Learning Program, which includes coordination of the Master Gardener Volunteer program for New York State. What I do is attempt to create opportunities for the County Cooperative Extension education to connect with research-based information, people, and experts so that they can work to enhance the quality of life for individuals, families and communities in their towns. The focus is specifically on garden-related activities as a tool for enhancing environmental literacy, science literacy, and community building, as well as social integration and human well being.

How many of you are currently partnering with some aspect of Cooperative Extension? By a show of hands I see that a large number are, about half. And how many of you have tried, but it hasn't worked out? How many of you are not quite sure what Cooperative Extension is?

Cooperative State Research, Education and Extension Services (CSREES) is a federal agency within the U.S. Department of Agriculture. Within that we have the outreach branch of the agency, our Cooperative Extension. Cooperative Extension works with land-grant universities. In New York State, our land-grant university is Cornell. There is a Web site you can refer to if you have additional questions about Cooperative Extension.

The confusing thing is that within every state, Cooperative Extension takes on very different shapes. Sometimes the counties have their own things going on, sometimes it is a statewide effort and there aren't so many county offices. For example, I know that Rhode Island is probably very different from New York because of the size of the state. While it is very confusing, hopefully I will be able to clear up a little bit about Master Gardener Volunteer portions of Cooperative Extensions. Actually, I really hope that I can share with you some information to entice you to consider trying to partner with some of the Cooperative Extension networks throughout the country.

When I look at our Cornell Cooperative Extension mission statement it says that the "...educational system enables people to improve their lives and communities through partnerships that put experience and research knowledge to work." When I think about that and then think about the citizen science definition, which talks about engag-



Cooperative Extension System

- Cooperative State Research, Education, and Extension Service (CSREES) is a federal agency within U.S. Dept. of Agriculture.
- CSREES cooperates with more than 100 colleges and universities that comprise the nation's Land-Grant University System.
- Cooperative Extension focuses work in six major areas:
 - Natural Resources;
 - Community & Economic Development;
 - Leadership Development;
 - 4-H Youth Development;
 - Family & Consumer Science;
 - Agriculture.

www.csrees.usda.gov

Cooperative Extension (CE) Master Gardener Volunteer Program

- 35 years old and every state has a program (see www.ahs.org/master_gardeners/index.htm)
- Currently ~ 90,000 active volunteers in U.S. and Canada
- Volunteers are most often county-based (some counties have 6 volunteers, some 300)
- Up to 20,000 participants are selected to attend 40 to 80 hours of basic/core horticultural training annually
- Most pay for the training (\$100 to many hundreds)
- Training focuses on research-based knowledge and train-the-trainer model
- Provide >2.5 million hours of service for community educational projects such as fielding public inquiries, leading workshops, writing articles, creating demonstration landscapes in broad range of subject areas
- Volunteers work with diverse populations from prison inmates, youth, nursing home residents...
- Volunteers often required to pursue 5-15 hours / year advance training in addition to volunteering
- Next International Master Gardener Conference will be held in Las Vegas March of 2009

ing the public and advancing scientific knowledge, I think that we have lots of things in common. We want to engage the public and we are focused on research information.

That is why I want to entice you to consider working with the network, but I also want to entice you to work with our network because I think we can benefit from partnering with citizen science projects in accomplishing our mission as well as helping you accomplish your mission.

Cooperative Extension Master Gardener Volunteer Program

We have Master Gardener Volunteer programs in every state and they have been going on for thirty-five years, so it has a pretty long history. Currently there are 90,000 active Master Gardener volunteers throughout the U.S. and Canada. That is a lot of volunteers. Maybe even more exciting is the fact that we train about 20,000 additional Master Gardener volunteers in our core training. You may well worry about our retention rate with those figures, but we are training that many people and they don't just get a little bit of training. Generally the training is 40 to 80 hours basic/core horticultural training, and they pay for it.

The training really focuses on research-based knowledge. We have that connection to the Land-Grant University System, and at Cornell our Cooperative Extension in general is always talking about research-based knowledge, so our volunteers are hearing a lot of research-based knowledge language. We use the train-the-trainer model. They are being trained so that they can go out and do public education. I think those are important things to know in terms of what happens in that Master Gardener Volunteer system.

It varies from state to state, but many states are organized by county, so in New York, for example, I don't work directly with the volunteers, I work with the county educators who work with the volunteers. It is those counties that decide how they are going to engage those Master Gardener Volunteers. In other states they do have more of a centralized system, with a state person working with volunteers from across the whole state.

Those 90,000 Master Gardener Volunteers spend 2.5 million hours doing community education work. That is a lot of hours, and what they do is varied, and I imagine some of it is monitoring. Very often they are fielding public inquiries, answering questions that come in via e-mail, via phone, and at booths at fairs. They often lead workshops as well as write articles, and they create demonstration landscapes in a broad variety of subject areas from ecological lawn care, growing flowers, and perennials to creation of wildlife habitat and monitoring invasive species. We actually were thinking about invasive species monitoring in New York state and just did a quick poll of the counties to ask whether there were

Master Gardeners engaging in basic species monitoring. We received positive responses from twenty counties. So there is quite a broad range of things that our volunteers are doing that are very similar to the citizen science projects you have been sharing.

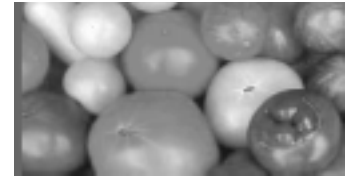
They also work with diverse populations, though our Master Gardener Volunteers in general don't reflect the population. They are a little more homogenous than the populations they work with, but they do reach a lot of different populations.

Generally they are required to do advance training every year. This is where I think some of you might step in. There are educators out there who are working with their volunteers and they want to offer advance training, and you may be able to offer some of that training to get them engaged in your work. There is also, on an international level, a Master Gardener Volunteer conference held every other year. That might be another opportunity for you to connect with this network.

I want to share some factors that motivate Master Gardener Volunteers, and those working with volunteers know that these are probably similar to the motivational factors that your volunteers have. When it comes to Master Gardener Volunteers, there is really a passion about gardening, and often a passion about a particular type of garden. For example, we have a lot of volunteers who are passionate about worms, a topic that keeps coming up at this conference also. About seven years ago we decided we wanted to engage Master Gardeners in citizen science projects and we did some focus groups with gardeners comprised mostly of Master Gardener Volunteers because we wanted to find out what their interests were before we decided on a citizen science project. Worms came up more than once, but nobody was studying worms at Cornell at that point so it didn't make it into the final project that we chose.

So the things they are interested in are really broad and it might be challenging to find the right individuals for your project, but once you find those people who are interested they can really be quite a benefit to your program. They also have a strong desire to share their passions with others. We all know how wonderful and how effective that can be in getting motivated volunteers interested. And they have a strong desire to contribute back to their community. In fact, when most states and counties are accepting Master Gardener Volunteers they go through an application process, and as part of that application process they are told, "We expect you to do public education," so again you are working with a population that is expecting to give back to the community.

Volunteers also really enjoy the social aspect of it, as well as having a desire to pursue lifelong learning. In fact there was a study that came out fairly recently in the *Journal of Extension* that said Master Gardener Volunteers demonstrate equal interest in learning about local ecology and plant communities as well as home gardening skills. You can see that when



Some Factors Motivating Master Gardener Volunteers

- Passionate about gardening, often particular types or aspects of gardening
- Desire to share their passion with others
- Desire to contribute to their community
- Enjoy the social aspects
- Pursuit of lifelong learning¹

¹A study noted MGVD demonstrated equal interest in learning about local ecology and plant communities as home gardening skills (www.joe.org/joe/2006december/rb5.shtml)



Key Benefits to Engaging MGV as Key Leaders/ Ambassadors for CS Projects

- They are familiar with academic/research “types”
- They have been trained to value research-based information
- They have been trained to transfer information to the public
- They have been cultivated to be key community leaders
- They get outside, observe their landscapes, gather observations, seek patterns
- They are a network that could be quickly mobilized to address an emerging issues (e.g., USDA Forest Service use MGV in Rapid Response Education program for Sudden Oak Death)
- They are used to being involved in pilot tests of projects
- Most are using modern technology to communicate
- They usually have a paid volunteer program coordinator working with them
- They have local community connections



State Cooperative Extension Services

www.csrees.usda.gov/qlinks/partners/state_partners.html

we talk about gardening in the Master Gardener program, the interpretation of gardening is really very broad.

I have listed some key benefits to engaging Master Gardener Volunteers. Again, I think they would love to do the monitoring, but I think they could really step up and be key leaders or ambassadors for many programs. They are familiar with academic types because that is usually who does the training for them and they are associated with a university so they are familiar with that aspect as well as with research-based information. They are trained to transfer information to the public. They have been cultivated to be key leaders in their communities. They are also outside, observing their landscape. They even take notes, they keep journals, they enter information about their landscape on spreadsheets that they keep for themselves. They share that information with friends and neighbors, and they will also sometimes share it with broader audiences. So they not only take observations, they like to share observations with others.

They are also a built-in network. The USDA Forest Service has used Master Gardener Volunteers for Rapid Response Education programs for Sudden Oak Death syndrome. They wanted monitoring to occur and they decided to use the MGV network, which could be quickly mobilized, to address their problem. They are already in place; you don't have to expend effort organizing them. Also they often are working with a paid coordinator for their program, which is also helpful for volunteer development activities, and they have connections with their local communities.

I want to take the last couple of minutes to share with you how you can connect with these groups. You could connect on the county level if you can find someone in your county, but if you could connect with a state person within the Cooperative Extension office who coordinates the MGV program that would most probably be the most profitable because they have a connection with the national network as well as a connection with their state offices. These state coordinators will often know about workshops and professional development opportunities involving their volunteers or staff that you may be able to fit into.

I have focused on the Master Gardener Volunteer program, but perhaps the MGV programs aren't the best fit for you. There are other cooperative Extension volunteer programs including the Master Naturalists you heard about earlier at this conference, Master Forest Owners, and Master Watershed Stewards. One thing about the MGV program is that they are active in all states, and some of them are doing some of the activities that these other groups are doing in other states. If you want to learn more about the MGV program, feel free to get in touch with me.