



Tips for Working with Citizen Science Volunteers

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Why Involve Volunteers in Science?

Working with volunteers to help conduct scientific research can accomplish goals for outreach and engagement (“broader impacts”) and can expand data collection to larger geographic areas or across longer time periods. Advances in technology now enable volunteers to more easily collect accurate data, and scientists to review and ensure data quality.¹ Studies have consistently shown that with appropriate protocols, training, and oversight, data collected by volunteers is comparable to those collected by professionals.² And, as citizens involved in their communities, volunteers may also become advocates and policy leaders, putting into action the research to which they have contributed.³

Below are tips for working with citizen science volunteers compiled from UNH Cooperative Extension, the Stewardship Network: New England, and other partners who have decades of experience working with citizen science volunteers. We hope they help you plan successful, rewarding, and fun citizen science opportunities! For more resources, see other materials available at the Nature Groupie website: naturegroupie.org

- 1. Capitalize on Connection to Place** – Citizen science volunteers may have increased motivation and be more engaged over time if their research efforts connect strongly with a place they care about.⁴ Research that focuses on local wildlife, plants, or conservation issues will capitalize on the strong connection between volunteers and their affinity for a region, state, town, or parcel of land. On the other hand, where there is strong public interest in an animal, plant or phenomenon, citizen science projects can also very successfully collect digital data with little or no in-person connection with volunteers (e.g. eBird, Aurorasaurus, etc.).
- 2. Identify and Meet Potential Volunteers** – Nature Groupie is a good place to recruit interested volunteers. However, scheduling a group “kick-off” event, preferably at the start of the research field season, will help efficiently train and inspire volunteers. Although it may be tempting to recruit volunteers for your project without a group training event, experienced citizen science researchers have learned that hosting public events — where projects are explained, protocols are taught, and scientists can meet and interact with volunteers — improves volunteer reliability and engagement, as well as overall project success.
- 3. Fulfill Their Needs:** Citizen science volunteers are motivated to volunteer for a variety of reasons. Unlike paid staff, their volunteer work represents their free time, so be sure your project meets some of their needs. According to UNH Cooperative Extension, the top four reasons people volunteer for the environment are: 1) To make a difference to the environment or their community, 2) To learn something new, 3) To get outside and 4) To work alongside environmental professionals. As a result, you need to **make sure**:
 - Every participant understands how the project will contribute to improving the environment
 - Volunteers learn something new (beyond basic protocols) as a result of their work. Have a handout or some kind of educational message (send a link to a website before or after, etc.)
 - Researchers directly engage with volunteers. Research on the motivation of citizen science volunteers shows that interaction with scientists was important to volunteers’ continuing to participate in a citizen science project over time.⁴
- 4. Keep Protocols Simple.** The simpler your protocols, the better success you will have with volunteer follow-through and data quality. Break down your project into small tasks that allow volunteers to easily find tasks that appeal to them and fit their schedules.⁵ UNH Extension and Nature Groupie staff are available to offer advice on protocol development, use of new technologies, and best practices for working with volunteers.
- 5. Provide Educational and Instructional Materials** - Provide educational materials that allow participants to understand the theory and ideas behind the research, including a simple description of the research questions, and clearly described protocols.¹ All training materials should be tested with volunteers to ensure they clearly communicate the research methods.⁵ To ensure quality control, it is important to test and observe volunteers

to make sure methods and protocols are being followed.

6. **Make it Fun.** Successful coordinators know that making a project fun is important to retaining volunteers.⁶ Offering food and drink goes a long way towards setting a collegial tone and a warm atmosphere. Use humor, don't drive people too hard, and include a social component if possible. Your goal is not just to get the data collected, but to get volunteers to return. Invest in a relationship, not just a sample or an event.
7. **People Enjoy People.** Whenever possible, set up projects where people can team up or work with others. Even if it is most efficient for everyone to work independently, volunteers will stay more engaged, have more fun, require less help, and are more likely to meet their obligations if they work alongside other volunteers. Scheduling group events will be more effective than relying on people to do the job alone, and will ensure the safety of volunteers working in the field.
8. **Provide Periodic Opportunities to Renew (or Not).** Repetitive trainings such as annual accreditation or seasonal meetings have been shown to help renew volunteers' commitment to and interest in a project.⁴ Similarly, they provide a graceful exit for those who do not wish to continue as volunteers.
9. **Record Your Success.** Tally the number of volunteers, total hours, and time spent planning. Volunteer hours may be eligible as cost-share match for some grants. Assign a photographer to capture before and after pictures, or photos of people (looking happy). Make sure to ask people if it's okay to take their picture and to use it later (especially important with minors). Use photos to help promote your next season.
10. **Thank and Reward People.** Volunteers need to know their work is valued. Remember to thank them at the beginning, during, and after completion of your project. This seems simple, but is often forgotten in the surge of work or organizing. As the project progresses, pictures of volunteers at work can act as a nice "reward", as well as more traditional means like a t-shirt, annual potluck, or other recognition. Nature Groupie can help by promoting your successful events to a wide audience through news articles and updates.
11. **Share Your Results.** Research on effective citizen science programs shows that sharing results in a format that is useful to volunteers is important for volunteer engagement, motivation, and continued participation.⁷ Volunteers may want to use the results of citizen science research in local decision-making, advocacy, or to advance their own scientific understanding, but they can't learn or take action if they don't have access to the data, or if results aren't presented in plain language and in a timely manner. Nature Groupie has examples of effective communication of citizen science results drawn from a variety of local projects in formats ranging from GIS maps, blog posts, volunteer newsletters, interactive data visualizations, and more.
12. **Evaluate Your Project.** Evaluation is critical for long-term success of citizen science programs, and the Cornell Lab of Ornithology publishes a practical online guide to citizen science evaluation.⁸ With a focus on evaluating learning outcomes of volunteers, the evaluation approaches will help answer questions such as whether your volunteers think about or do anything differently as a result of their participation, what they are learning, and other such "broad impacts" of the citizen science approach.

References:

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Special thanks to Lisa Demaine, UNH Citizen Science and Communities Intern, Summer, 2014, who helped with literature review and early drafts of this publication.