

July, 2016

Issue 15



## MONARCH JOINT VENTURE



MonarchNet News  
A Citizen Science Newsletter

### Upcoming Events

- [Southwest Monarch Study Tour](#), Utah & New Mexico, see link for dates.
- [MLMP+ Training](#)
  - Memphis, TN Aug 22nd



Photo: Candy Sarikonda



Photo: Kip Kipbart

Cover photo: Candy Sarikonda

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### *New Citizen Science Journal Launches*

In May 2016, a new open-access, peer-reviewed journal launched, dedicated to the study of and advancement of citizen science. *Citizen Science: Theory and Practice* is a new platform for sharing the latest research about citizen science.

From the journal:

“*Citizen Science: Theory and Practice* is an open-access, peer-reviewed journal published by [Ubiquity Press](#) on behalf of the [Citizen Science Association](#). It focuses on advancing the field of citizen science by providing a venue for citizen science researchers and practitioners - scientists, information technologists, conservation biologists, community health organizers, educators, evaluators, urban planners, and more - to share best practices in conceiving, developing, implementing, evaluating, and sustaining projects that facilitate public participation in scientific endeavors in any discipline” (Citizen Science).

Articles in the inaugural issue include everything from a case study of [volunteer monitoring the impact of shale gas extraction on streams](#) to studying the [effectiveness of citizen science itself](#), to how [butterfly citizen science projects support conservation](#) among their volunteers (featured on page 2).

From now on, articles, case studies, essays and reviews will be published on a rolling basis, so keep an eye on the website, sign up for their [blog](#) or follow their Twitter [@CitSciAssoc](#) for the latest citizen science insights as they happen.

Content you can expect to see from *Citizen Science* includes:

- **“Research Papers:** Quantitative and qualitative research about the practice of citizen science, such as how learning outcomes differ among models of citizen science, how various features of project design yield high-quality data, efficacy of various participant recruitment models, effectiveness of varied technologies for implementing and facilitating projects;
- **Review and Synthesis Papers:** Overviews with meta-perspectives of significant topics in citizen science such as conceptual or theoretical reviews or syntheses of methods;
- **Case Studies:** Reports that provide evidence about how projects fare at meeting their intended outcomes for education, conservation, research, policy;
- **Essays:** Perspectives on issues in citizen science, particularly new ideas, controversial perspectives, and highlights of hot topics” (Citizen Science).

### What is Open Access?

Open access journals provide free, immediate access to their content to the public. This practice supports a greater exchange of knowledge and the accessibility of scientific research to the general public. When submitting to the journal, authors give third parties Creative Commons license to use, reproduce and share their article (Citizen Science).

## Butterfly Citizen Science Projects Support Conservation Activities among their Volunteers

Butterfly citizen science has many natural connections to conservation activities, because of nature of the threats and action strategies involved in butterfly conservation (Lewandowski and Oberhauser, 2016). A study published in the new *Citizen Science: Theory and Practice* journal examines butterfly citizen science projects and how they are encouraging conservation activities among their volunteers.

Authors Eva Lewandowski and Karen Oberhauser, both of whom work with the Monarch Larva Monitoring Project, suggest three categories of conservation strategies in which citizen scientists are well equipped to participate:

- Habitat creation and protection;
- Education and outreach; and
- Financial donations.

Citizen science projects can invoke these actions in their volunteers by:

- Providing information about conservation threats and individual conservation strategies;
- Offering an opportunity to develop hands-on conservation skills; and
- Creating a sense of community and social norms between volunteers that encourage conservation.



Photo: Becky Hansis-O'Neill

Conservation action outside of citizen science project activities are a perfect fit for butterfly citizen science, because many projects study or directly deal with conservation concerns such as habitat loss and disease. Conservation education is often an inherent part of citizen science training, and volunteers tend to be engaged and knowledgeable about these issues. With the right help, butterfly citizen science volunteers of all kinds can become avid participants in conservation actions!

If you are a butterfly citizen scientist eager to get more involved, visit [www.plantmilkweed.org](http://www.plantmilkweed.org) to learn how you can create habitat for monarchs, pollinators and other butterflies. To learn about educating others, or making a financial contribution to monarch and pollinator conservation, visit <http://www.monarchjointventure.org/get-involved/>.

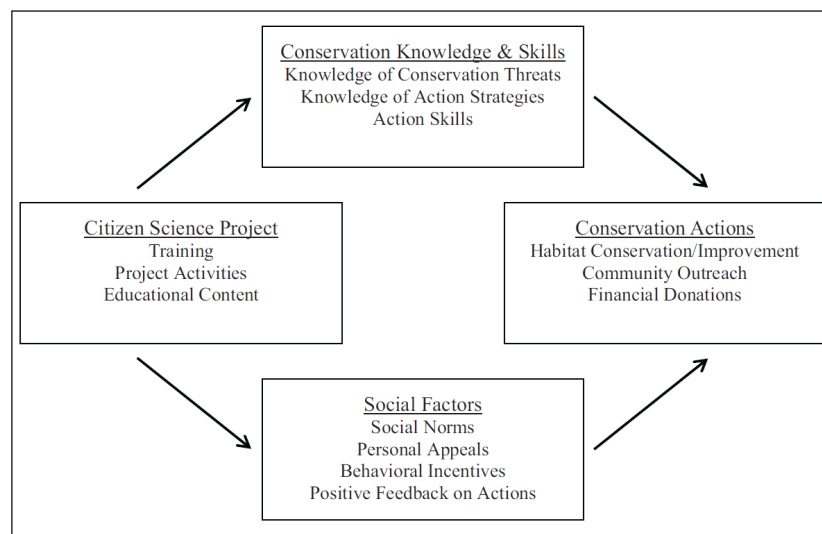


Figure 1: Model depicting a citizen science project's influence on its volunteers' transition from citizen science participation to conservation action.

Figure credit: Lewandowski and Oberhauser, 2016.

## Citizen Science Updates

### Citizen scientist lepidopterists exposed to potential carcinogens

- Many butterfly and moth citizen scientists use solvents to trap and capture specimens for their projects. Finnish researchers explored the extent of use of these chemicals, the frequency and extent of potential exposure, and what safety measures are used by Finnish lepidopterists. They found that citizen science lepidopterists are exposed to significant volumes of chloroform and 1,1,2,2-tetrachloroethane each year, with common exposure to fumes and spills. Ten percent of lepidopterists have ever shown untoward symptoms of exposure. The highest risk activities for exposure were trap maintenance, exploration and catch sorting. [Read the full article](#) for more information. (Vainio et al. 2016)

### Southern California Citizen Science Symposium

- Conferences and symposiums can create connections to improve citizen science research, forge partnerships and share information. The first Citizen Science for Conservation in Southern California Symposium did just that this year at the Aquarium of the Pacific. For a summary of the symposium and copies of all the presentations, visit [this website](#).

### NAB-Net Newsletter

- The North American Butterfly Monitoring Network (NAB-Net) has launched a new newsletter, the NAB-News! NAB-Net is a network of organizations that carry out and support programs that monitor butterflies, including the volunteers that compile data and the researchers & conservationists who use the data to answer ecological questions. Each newsletter will feature new research and activities and a Featured Scientist and Program. To find out more about NAB-Net and the new NAB-News, [visit their website here](#).

## Ten Principles of Citizen Science

What makes a project a citizen science project? As a flexible concept which can be defined in numerous ways, citizen science can mean many things and applies to many disciplines. Remembering the key features that make up citizen science is an important part of projects and volunteers staying connected. These 10 principles of citizen science were developed by the [European Citizen Science Association](#), and are a good benchmark for citizen science projects to achieve.

- Citizen science projects actively involve citizens in scientific endeavor that generates new knowledge or understanding.
- Citizen science projects have a genuine science outcome.
- Both the professional scientists and the citizen scientists benefit from taking part.
- Citizen scientists may, if they wish, participate in multiple stages of the scientific process.
- Citizen scientists receive feedback from the project.
- Citizen science is considered a research approach like any other, with limitations and biases that should be considered and controlled for.
- Citizen science project data and meta-data are made publicly available and where possible, results are published in an open access format.
- Citizen scientists are acknowledged in project results and publications.
- Citizen science programs are evaluated for their scientific output, data quality, participant experience and wider or societal or policy impact.
- The leaders of citizen science projects take into consideration legal and ethical issues surrounding copyright, intellectual property, data sharing agreements, confidentiality, attribution, and the environmental impact of any activities.

## References

- Lewandowski, E J and Oberhauser, K S 2016 Butterfly citizen science projects support conservation activities among their volunteers. *Citizen Science: Theory and Practice*, 1(1): 6, pp. 1–8, DOI: <http://dx.doi.org/10.5334/cstp.10>
- Vainio, P J; Vahlberg, T; and Liesivuori J 2016 Citizen scientist lepidopterists exposed to potential carcinogens. *Food and Chemical Toxicology*, 91, pp. 1-7, [doi:10.1016/j.fct.2016.03.001](https://doi.org/10.1016/j.fct.2016.03.001)

### Share your ideas!

Are you a butterfly citizen scientist with a story, photos, or artwork to share? Would you like to nominate a volunteer or program for recognition in the newsletter? Write to us at [mjv@umn.edu](mailto:mjv@umn.edu) with your ideas.

Help us spread the word. Send this newsletter to friends who may be interested, and encourage them to sign up for our newsletter on the MonarchNet website, <http://www.monarchnet.org/newsletters>