

APPENDIX A: Databases and Search terms used to locate citizen science websites.

Name of Database / Search Engine	URL and search terms
Citizen-Science.org	http://citizen-science.org
CitSci.org	http://www.citsci.org/
InformalScience	http://informalscience.org/project/search/all
Citizen Science Central	http://www.birds.cornell.edu/citscitoolkit/projects
SciStarter- Science we can do together.	http://scistarter.com/finder?activity=andtopic=andphrase=andaddress=
Citizen Science Alliance	http://www.citizensciencealliance.org/projects.html
Astronomy/Space Sciences Citizen Science Projects	http://buhlplanetarium2.tripod.com/FAQ/citizenscience.html#astro
Meera- My Environmental Education Evaluation Resource Assistant	http://meera.snre.umich.edu/
Citizen-Based Monitoring Network of Wisconsin	http://wiatri.net/cbm/partnership/abstracts08.cfm
National Directory of Volunteer Monitoring Programs	http://yosemite.epa.gov/water/volmon.nsf/ 871 projects listed. Every 5th project was checked for a website with information.
Scientific American CS database	http://www.scientificamerican.com/citizen-science/
NSF	http://www.nsf.gov/awardsearch/ Used the following search terms: citizen science, public participation science, collaborative science, informal science.
Google	www.google.com Searched database using following search terms: "citizen science project", "citizen science database", "citizen science program", "citizen science", "citizen science projects", "informal science project", "informal science programs", "informal science database", "public participation science", "public participation science program", "public participation science project." <i>Usually just the first 10-20 hits were followed on each of these searches.</i>

APPENDIX B: Questions from Online Practitioner Survey

Evaluation of Citizen Science/PPSR Projects

Welcome!

Thank you for volunteering a few minutes of your time to offer feedback about evaluation of Citizen Science projects. The Cornell Lab of Ornithology is administering this survey to gather information that will improve the design and implementation of Citizen Science evaluations.

The survey has two major goals: 1) to determine the types of assistance/support needed by practitioners for conducting quality evaluations and 2) to document the strategies and instruments or measures that have been used in Citizen Science project evaluations.

(Please note: Projects that involve the public in research go by many different names. In this survey we use the term "Citizen Science" to refer to any project that involves the public as collaborators in scientific research.)

The survey should take about 10-15 minutes to complete. All responses are confidential, and you are welcome to exit the survey at any time. A few required questions (mostly to enable survey logic) are marked with an asterisk.

If you need to leave the survey before completing it, no problem — when you return you'll be taken to the place where you left off.

Evaluation of Citizen Science/PPSR Projects

Project background

*How would you describe the structure of the Citizen Science project that you work on? (If you work on more than one project, please answer all questions for the project that you are most closely associated with.)

- Contributory (Participants are asked by scientists to collect and contribute data and/or samples)
- Collaborative (Participants assist scientists in developing a study and collecting and analyzing data for shared research goals)
- Co-Created (Participants develop a study and work with input from scientists to address a question of interest or an issue of concern)
- Other (Please specify below)

Other:

About how many years has your project been operating?

- It's just getting started
- From 1 – 5
- From 6 - 10
- 11 or more
- I don't know

On average, approximately how many people participate in your project each year?

- Fewer than 100
- 101 - 500
- 501 - 1000
- 1001 - 5000
- More than 5000

How would you describe the kind of training received by the MAJORITY of your participants?

- Participants receive instructions online or in print and no other training is required
- Voluntary training through "in-person" workshops/seminars
- Mandatory online tutorials prior to participation
- Mandatory training thorough "in-person" workshops/seminars
- Mandatory multi-day training or certification course
- Other (please specify below)

Other:

(Optional but helpful!) Please provide the name and a brief description of the project that you are most closely associated with.

*To the best of your knowledge, has ANY type of evaluation been conducted on your citizen science project within the last 10 years? (This could include any effort to gather data about your project participants and their needs, information about whether the project is working well, or evidence about project impacts, either educational or scientific.)

- Yes, definitely
- Yes, I think so
- No, I don't think so
- No, definitely not
- I don't know

Evaluation of Citizen Science/PPSR Projects

Projects with evaluations

For the most recent evaluation of the project that you are most closely associated with, did you...

- Hire an external evaluator
- Conduct the evaluation using internal personnel
- Use a mix of external and internal personnel
- I don't know

To the best of your knowledge, what type of evaluation was conducted during your most recent project evaluation? (Please check all that apply.)

- Front-end (to conduct needs assessment or obtain baseline information about audience)
- Formative or Process (during project development to inform project implementation)
- Summative (to describe project outcomes or impacts)
- I don't know

Comments about this question?

Briefly describe the main reason for conducting the evaluation and what you were hoping to measure.

Main Reason for evaluation:

What did you measure?

Evaluation of Citizen Science/PPSR Projects

Projects with evaluations - continued

For the most recent evaluation of the project, which broad categories of learning outcomes, if any, were evaluated? (Please check all that apply.)

- Knowledge of science content, process, careers, and/or environment
- Engagement and/or interest in science content, process, careers, and/or environment
- Science inquiry skills (asking questions, designing studies, data collection and analysis, using technology)
- Attitudes toward science content, process, careers, and/or environment
- Behavior changes resulting from participation
- Did not measure learning outcomes

Other (please specify below)

What other aspects of your project, if any, were evaluated? (Please check all that apply.)

- Effectiveness of workshops and training sessions
- Motivation to participate
- Overall participant satisfaction/enjoyment with project
- Scientific/conservation outcomes, adaptive management
- Community capacity building
- Summation of project outputs (numbers of participants, web hits, journal articles, data submitted, etc)
- Evaluation of data quality
- Social policy change

Other (please specify below)

To the best of your knowledge, what types of data were collected during the most recent evaluation? (Please check all that apply.)

- Survey data
- Scores from tests or quizzes
- Interview data
- Data from focus groups
- Observational data
- Data from diaries/journals
- Data from existing database(s)
- Portfolio data

Other (please specify below)

For the most recent evaluation, what design features were used? (Please check all that apply.)

- Pre-test only
- Post-test only
- Pre- and post-test
- Control or comparison groups
- Random assignment groups
- I don't know

Other (please specify below)

Please do your best to provide the name or description of any instruments (e.g., Views on Science and Technology) to collect evaluation data (even if you developed the instrument). If possible, provide the source for all evaluation instruments used. This information is very important - if you need to look this up you can leave the survey by clicking "exit survey" in the upper right corner, and when you return, you'll come back to this question.

Evaluation of Citizen Science/PPSR Projects

Evaluation effectiveness

How much do you agree or disagree with the following statements regarding the most recent evaluation of your project?

	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	N/A
The evaluation was of high quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Findings from the evaluation were informative to the project managers/developers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Recommendations from the evaluation were implemented into the project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The project has improved as a result of the evaluation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have learned a lot about evaluation through this process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel confident that I could personally conduct a quality evaluation in the future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other comments about the evaluation?

To the best of your knowledge did any kind of report or publication result from the most recent evaluation of your project? (Please check all that apply.)

- Yes, publication in a peer-reviewed journal
- Yes, report for external funders
- Yes, report for in-house or public audience
- No, nothing was ever published

Other (please specify below)

May we contact you or someone in your organization to learn more about your evaluation? (If yes, please include an email address in the box below.)

- Yes
- No

Enter email address below (for survey purposes only)

Evaluation of Citizen Science/PPSR Projects

Projects without evaluations

Which of the following reasons best describes why your project has not been evaluated?

- Not enough staff expertise
- Lack of financial support
- Not enough internal support
- Too time consuming
- I am not sure where to begin
- Other (please specify below)

Other:

Evaluation of Citizen Science/PPSR Projects

Help with evaluation

If you were to conduct your own evaluation of your project, what THREE aspects of the evaluation process would you most like assistance with?

	First Priority	Second Priority	Third Priority
Developing logic models	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing goals, objectives, and indicators	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Determining sample size	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Creating or finding appropriate survey instruments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Collecting data (through surveys, focus groups, interviews, observations, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Analyzing and interpreting data	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disseminating results to others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Implementing findings from the evaluation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other areas you would like help with?

If you were to conduct your own evaluation of your project, what three resources would be most valuable to you?

	First Priority	Second Priority	Third Priority
An entry level User's Guide for conducting evaluations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online webinars focused on specific evaluation topics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A list of must-read evaluation resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sample evaluation reports from citizen science projects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A database of potential surveys and data collection instruments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Examples of possible evaluation designs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tutorials on data analysis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional workshops focused on specific evaluation topics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community driven online forum for asking questions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other comments about the evaluation?

How often do you access evaluation resources from the following web sites?

	Frequently	Sometimes	Rarely	I have never heard of this resource
MEERA (My Environmental Education Evaluation Resource Assistant – meera.snre.umich.edu)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
InformalScience (informalscience.org)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CAISE (enter for the Advancement of Informal Science Education – caise.insci.org)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ATIS (Assessment Tools for Informal Science – pearweb.org/atis)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
OERL (Online Evaluation Resource Library – oerl.sri.com)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AEA (American Evaluation Association – eval.org)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
VSA (Visitor Studies Association – visitorstudies.org)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Citizen Science Central (citizenscience.org)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other websites you use for evaluation?

Evaluation of Citizen Science/PPSR Projects

Last page & final thoughts

What other sources, if any, do you use to obtain information about evaluation?

In your opinion, what types of information/resources/opportunities are MOST needed for the field of citizen science in order to conduct more effective evaluations?

Any other thoughts about evaluation in general that you'd like to share?

Evaluation of Citizen Science/PPSR Projects

Thank You!

Thank you for taking the time to share your thoughts about evaluation of Citizen Science - your feedback is extremely helpful and appreciated!

When you click on the "Submit" button below, your responses will be submitted and you will be taken to the Citizen Science Central home page.