Incorporating Citizen Science into a "Traditional" Research Project: Managing the Transition

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As citizen science becomes more widespread and accepted as a component of research, more and more projects are incorporating citizen science techniques and practices as part of the initial project design. Other projects, however, begin life as "traditional" research projects, and only later transition into citizen science projects. Making this transition presents a unique set of challenges and opportunities for a research lab, and understanding these challenges can improve the process for both researchers and citizen scientists. Here, I will present a case study of this transition through the lens of the Chesapeake Bay Parasite Project, a citizen science project which examines the spread and environmental controls of an invasive parasitic barnacle in Chesapeake Bay. Through an analysis of methods used and data collected both before and after citizen science was incorporated, and by conducting interviews and focus groups with project staff and volunteers, I will follow the evolution of the project, including the motivations for project management decisions and changes in project resource needs (e.g. staff skill sets, logistics, budgets, time allocation, and communication strategies). This case study provides a useful "before and after" model for understanding project evolution, citizen science project management in a research lab, and how project needs change as citizen science elements are implemented.

Barriers and strategies to accelerate the use of citizen science by government agencies

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Despite the immense potential of citizen science to achieve science and community engagement outcomes, there are barriers within government agencies and current management systems that limit the widespread application of citizen science. These barriers are often institutional and may include lack of leadership, legal and administrative challenges, program sustainability and cultural barriers. Through innovative and collaborative partnerships, the Miistakis Institute, a non-profit research institute, has worked with industry, government, academia and the public to better understand barrier and work to achieve solutions. This presentation will profile two citizen science initiatives that have sought to understand and address barriers to accelerate agency use of citizen science. These initiatives contribute to important conservation issues including species at risk management, urban conservation planning and water, air and biodiversity monitoring.
Empowering Group Leaders with Real-time Data on Participation and Data Quality

Erin Posthumus - USA National Phenology Network

Successful citizen science programs are adaptive, closely monitoring both participant activity and data quality to make informed improvements to their program. The USA National Phenology Network (USA-NPN) promotes an understanding of plant and animal phenology and the relationships with environmental change. The USA-NPN primarily accomplishes this by engaging observers in Nature’s Notebook, a multi-taxon phenology observing program, and making the resulting robust, long-term, species-rich dataset freely available.

A rapidly growing segment of Nature’s Notebook participants engage through Local Phenology Projects (LPP), wherein observers participate as part of a locally or regionally organized group. Organizations including nature centers, arboreta, colleges, Master Gardener/Naturalist chapters, and land trusts have established such projects. LPPs submit five times as much data as individual participants and have retention rates that are double that of individual observers, making them an invaluable part of the USA-NPN.

To support these LPPs and allow them to adapt and improve their individual programs, USA-NPN’s National Coordinating Office (NCO) provides resources to assist leaders of LPPs to download, interpret, and visualize data about and collected by their group members. Through the use of a phenology data Visualization Tool and a Participant Dashboard, Local Phenology Leaders can access results about their observers and the quality of their data in real time, so they can quickly respond with necessary modifications. In this presentation, we will describe these tools to assist other citizen science programs to closely monitor the participation of their participants and the shape of their data, making needed modifications to their programs.

Studying the Use of Animations for Educating CoCoRaHS Volunteers

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Traditional training and educational materials provided to CoCoRaHS volunteers are similar in nature to other projects - written instructions, FAQ’s, PowerPoint slides, videos, in-person training workshops and on-line professional development workshops. However, measuring precipitation is not always straightforward, and unique circumstances leave volunteers wondering how to properly collect data and report a measurement when conditions are not ‘normal’. How does one measure snowfall in windy conditions? What about ice storms? The major advantage with animations is the freedom and ability of an artist to draw a situation that would ordinarily be difficult to film or photograph. Considering these animations are relatively short in duration, it became fair to ask if these animations are just as effective as traditional educational materials. CoCoRaHS worked with Goodman Research Group to answer this question. One hundred adult participants were randomly assigned to one of two groups in an online survey: the animations group, which watched an educational animation about ‘watersheds’, or the webinar group, which watched a traditional on-line lecture on watersheds. Participants in the animations group scored higher on a content knowledge assessment, on average, and made more positive comments in an open-ended response question. These results, as well as demographic differences between the groups’ ratings in terms of how accessible, appealing, easy-to-follow, informative, interesting, useful, and high-quality the videos were will be shared and discussed.