

# SAN DIEGO CITIZEN SCIENCE NETWORK

## July 18, 2013 Meeting Notes

The fifth meeting of the San Diego Citizen Science network/group was held on Thursday, July 18 from 11:00 am to 1:00 pm at the Institute for Conservation Research, San Diego Zoo Global, in Escondido.

### Introductions

Thirty-two participants offered short introductions and their interests in citizen science. Shelley Glenn Lee gave an overview of citizen science processes.

### Monitoring Methods

Rebecca Lewison, Associate Professor of Biology at San Diego State University, outlined the work that she and Professor Doug Deutschman have done to document effective monitoring practices at natural reserves. This step-by-step approach provides a common framework for site managers and planners, and was funded by the Environmental Mitigation Program Working Group at San Diego Association of Governments. Rebecca presented the common template that is intended to encourage and support standardization among local preserves, in the draft report, *Framework / Template for Implementing Adaptive Management: Guidelines for best practices with examples of effective monitoring and management*. She forwarded the draft report, commonly known as the “cookbook” for monitoring methods, to attendees and invited comments.

The steps require that managers and planners develop their monitoring plan together, fully understanding the science-based adaptive management process. The chapters cover specifics on best practices regarding monitoring and management that have direct relevance to field operations and provide guidance on cost-effective and efficient monitoring approaches, emphasizing the need and importance of a strong collaborative relationship between managers and field staff. The steps focus on aligning the management goals or question with the appropriate monitoring methods, for vegetation, birds, amphibians and reptiles, and small mammals. This alignment is essential to ensure that adaptive management is cost-effective and limited resources are used to support work that best meets stated management goals and objectives. For vegetation, monitoring methods range in complexity (and effort/expense) from presence/absence, vegetation structure, species composition, and absolute population data.

### San Dieguito River Valley Monitoring Program

Dave O'Connor briefly described the project at the San Dieguito River Valley Conservancy, funded in early 2013 from the San Diego Foundation Ariel W. Coggenshall Fund (\$40,000) to research, design and launch a Citizen Science ecological monitoring program for the San Dieguito River Valley. Project funds will be used to produce the protocol, purchase monitoring equipment such as camera traps and GPS units, and create outreach materials to engage and educate volunteers. The San Diego Gas and Electric Environmental Champions Award (\$10,000) funded the development of a Citizen Science data-recording smartphone app, which will be done in cooperation with the Institute for Conservation Research. More information at [www.sdrvc.org/current/citizenscience/](http://www.sdrvc.org/current/citizenscience/) or contact Dave O'Connor at [david@sdrvc.org](mailto:david@sdrvc.org).

### Interests and Information

- Network provides opportunities to meet others who have been doing or are beginning public participation projects to gather field monitoring data.
- Network promises to engage local adults and youth to support conservation, from the direct participation in science and nature.

- Strong partnership opportunities with community colleges and high schools.
- Could offer professional development for high school teachers, on using citizen science projects to meet Next Generation Science Standards.
- Often difficult for teachers/students to deal with questions, methods, data entry; would be helpful to start with some common methods that are widely applicable locally.
- “I learned a lot today, but didn’t leave with a specific project to engage local high school students.”
- Opportunities for volunteers to review and code photo data from live feed cameras placed locally and around the world, as a form of crowd sourcing data analysis.
- Some efforts locally to collect data for the “Barcode of Life” project, more information at the International Barcode of Life Project at the Smithsonian Institution, <http://www.barcodeoflife.org/> and Barcode of Life Database (BOLD) to collect, manage, and analyze DNA barcode data. <http://www.boldsystems.org/>. First proposed in 2003, four components are recognized: specimens, laboratory analysis, database, and data analysis, outlined at <http://www.barcodeoflife.org/content/about/what-dna-barcoding>.
- North American Association for Environmental Education conference in Baltimore, MD from October 9-12, 2014, <http://www.naaee.net/conference/program>, including strand for citizen science.
- Comprehensive guide to developing and managing monitoring programs available online: Pilz, David; Ballard, Heidi L.; Jones, Eric T. 2006. Broadening participation in biological monitoring: handbook for scientists and managers. Gen. Tech. Rep. PNW-GTR-680. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 131 p. Available at [http://www.fs.fed.us/pnw/pubs/pnw\\_gtr680.pdf](http://www.fs.fed.us/pnw/pubs/pnw_gtr680.pdf)

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