

Evaluating Youth Conservation Corps Trail Improvement Projects: Sampling & Data Collection Protocols

Katelin McArdle, North Carolina State University (NC State), USA, kmmcardl@ncsu.edu

Chelsey Walden-Schreiner, North Carolina State University, USA, cawalden@ncsu.edu

Michael B. Edwards, North Carolina State University, USA, mbedwards@ncsu.edu

Yu-Fai Leung, North Carolina State University, USA, leung@ncsu.edu

Erin Seekamp, North Carolina State University, USA, erin_seekamp@ncsu.edu

Mat Duerden, Brigham Young University, USA, duerden@byu.edu

Gary Blank North, Carolina State University, USA, gblank@ncsu.edu

Introduction & Purpose

Conservation Corps in the United States offer opportunities to engage participants in service projects, job training, and academic programming through service on public and tribal areas. Evaluation of such programs documents the impact of corps experience on participants' community and environmental engagement, leadership, and communication skills, as well as broader social, health, and economic benefits. The tool developed in this study is unique from other program evaluations, as it focuses on ecological assessment to complement existing participant assessments. The range of activities and habitats in which corps work limits the applicability of traditional evaluation methods, creating the need for an innovative measurement tool. This project, a collaboration between the Public Lands Service Coalition (PLSC) and NC State University, is developing standard evaluation protocols for conservation corps' trail and habitat improvement projects across the United States. This project engages corps from California, Hawaii, Montana, Oregon, Minnesota, Iowa, and others to assess common corps activities including repairing trail infrastructure, installing erosion and water control features, clearing debris, and removing invasive species. Evaluation will provide assessments of projects focused on improved ecosystem health, increased accessibility and usage of public lands, and enhanced visitor experiences.

This poster highlights the project's first phase: development and implementation of a standardized trail assessment. This tool employs accessible measures appropriate for participants who may have limited data collection experience, is applicable to a diversity of landscapes worldwide, and is adaptable to other types of programs besides conservation.

The tools developed through this collaboration are being implemented by corps members and staff during and after improvement projects. Using a comprehensive and standard methodology, the evaluation will provide corps and their partners with valuable information to use in communicating their outcomes, identifying opportunities for program growth and improvement.

Protocol Design

Indicator Development

These measures are intended to equip participants with data collection experience that will enhance their knowledge and skills, as well as provide corps with specific and measurable data illustrating the value of their work. Therefore, the measures used build upon counts of ‘miles/kilometers’ and ‘acres/hectares’ toward more indicators of trail sustainability and recreation function.

Based on an assessment of trail monitoring guides and indicators in the scientific literature, nine categories of trail indicators were identified as relevant to the types of trail work most commonly encountered by corps:

- Natural hazards/debris (Verlič, Arnberger, Japelj, Simončič & Pirnat 2015)
- Drainage feature damage (Hammit, Cole & Monz 2015)
- Structural damage (Verlič, Arnberger, Japelj, Simončič & Pirnat 2015)
- Erosion features (Moore, Leung, Matisoff, Dorwart & Parker 2012; Marion & Leung 2001)
- Increased tread width (Eagan, Newman, Fritzke & Johnson 2004; Marion & Leung 2001)
- Root exposure/damage (Moore, Leung, Matisoff, Dorwart & Parker 2012; Marion & Leung 2001)
- Bedrock exposure (Hammit, Cole & Monz 2015)
- Muddiness/standing water (Moore, Leung, Matisoff, Dorwart & Parker 2012)
- Running water on tread (Marion & Leung 2001)

Project & Plot-Level Data

To connect overall project goals with detailed site-specific measures, a ‘Trail Project Summary Form’ was developed based on existing data collected by corps, such as hours and length of trail worked. The Plot Assessment Form captures specific trail damage, or ‘events,’ and the resulting effort by the crew to correct the problem. Illustrated below is an example trail event, defined as work or activity performed that

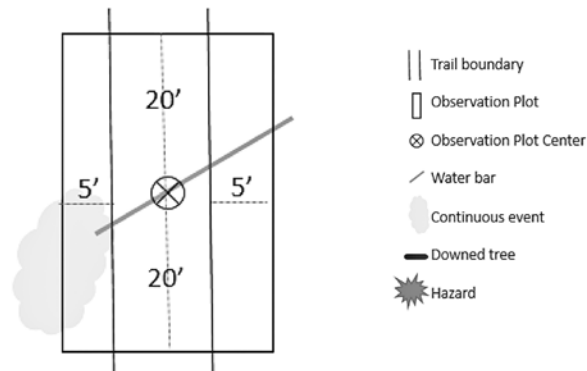


Figure 1. Illustration of trail event within plot boundary, for collection of indicator data

addresses recreation function, natural debris/hazards, and/or erosion/flood control (Figure 1).

Corps Engagement

Training

To prepare crews for successful data collection and promote data reliability, training materials were developed and disseminated at a national meeting and online. Materials included interactive modules, videos, quizzes, and practice data collection efforts.

Preliminary Results

Project and plot trail data is being collected between April and August 2016. The poster will present indicator development, training examples, preliminary findings, participant feedback, and lessons learned. Developing a set of indicator measures that could be applied to any ecosystem or recreational trail was challenging, but addresses a need to capture the environmental impact of conservation corps' work and is relevant to international land conservation efforts. The outcome is a trail assessment protocol that gathers consistent, comparable data. Furthermore, descriptive data that show in detail the significance of the maintenance performed by corps could result in increased support for this integral group of conservation and public lands stewards.



- Eagan, S, Newman, P, Fritzke, S & Johnson, L 2004, 'Subalpine meadow restoration in Yosemite national park', *Ecological Restoration*, vol. 22, no. 1, pp. 24-29.
- Hammitt, W, Cole, D & Monz, C 2015. *Wildland recreation: Ecology and management*, 3rd edn, John Wiley & Sons, Ltd., Hoboken, New Jersey.
- Kaplan, R, Kaplan, S & Ryan, R 1998, *With people in mind: Design and management of everyday nature*, Island Press, Washington, District of Columbia.
- Marion, JL & Leung, Y-F 2001, 'Trail resource impacts and an examination of alternative assessment techniques', *Journal of Park and Recreation Administration*, vol. 19, no. 3, pp. 17-37.
- Moore, RL, Leung, Y-F, Matisoff, C, Dorwart, C & Parker, A 2012, 'Understanding users' perceptions of trail resource impacts and how they affect experiences: An integrated approach', *Landscape and Urban Planning*, vol. 107, no. 4, pp. 343-350.
- Verlič, A, Arnberger, A, Japelj, A, Simončič, P & Pirnat, J 2015, 'Perceptions of recreational trail impacts on an urban forest walk: A controlled field experiment', *Urban Forestry & Urban Greening*, vol. 14, no. 1, pp. 89-98.