

Title: Nature Based Solutions via Community-Engaged Research and Education

Abstract: Solutions to mitigate the negative impacts of climate change on local communities are urgently needed. However, stakeholders and decision-makers are inadequately integrated into the design of research and solutions intended to serve them. Similarly, we are not preparing the next generation of scientists to successfully collaborate across disciplines and stakeholder groups; undergraduate curricula often leaves-out training in collaboration, co-production, and real-world problem solving. To meet these needs, faculty from the EBIO Department and the City of Boulder propose a research and education program on interdisciplinary and community-engaged research and education. Together, we will create an undergraduate internship program centered on co-producing Nature-based Solutions: actions that conserve, restore, or better manage ecosystems in ways that provide co-benefits for climate mitigation and adaptation, biodiversity, and human-wellbeing. This pilot will strengthen connections between CU and local communities while enabling us to seek matching funds from partners and grants to grow this program.

Summary: As a result of global climate change, our society is facing some of the most complex and vast socioscientific challenges ever encountered (e.g., devastating wildfires like the Marshall Fire). Such challenges and the development and implementation of Nature-based Solutions (**NbS**) require scientists to work at the interface of science and society

1. Engage 6 EBIO students in paid internships for co-produced research with end-users as a pilot for EBIO's **Nature Based Solution Capstone Course (NBSCC)**.
2. Provide opportunities for graduate students to **work with local partners and to mentor undergraduate students** in participatory action research and curriculum development.
3. Develop curricula and a model for EBIO's **NBSCC** program focused on training in co-production, internships, and product development for end-users.
4. Establish a Community of Practice for undergraduate and graduate students with interdisciplinary interests working on applied projects (the **NBSCoP**).
5. Gather pilot data for fundraising and grant applications **to sustain and grow the program.**

Program components, leadership team, anticipated outcomes, and sustainability plan

Local projects generating NbS. We will focus on 3 ongoing projects, developing internships for 2 students within each project. Each project will involve students in co-produced research focused on solutions to local climate and environmental challenges.

Urban Heat in Boulder. As cities face frequent and prolonged heat waves, urban heat mitigation

