

CASE STUDY 1: Youth Collaborations on Sage Grouse Research

YOUTH-FOCUSED COMMUNITY AND CITIZEN SCIENCE (YCCS)

When do experiences with science lead young people to *create change* in their lives and communities?

Through youth-focused community and citizen science, educators and researchers can join young people in the work of learning, doing, and using science to improve the world we share. Research has shown a need to consider the identities, cultural backgrounds and experiences that learners bring with them. To promote science learning that emphasizes doing, and not just knowing, we can work within communities to help young people learn norms, habits of mind, and dispositions that make science a powerful tool for understanding their world in personally meaningful ways. When successful, these projects can lead young people to create change in their lives, landscapes and communities.

SAGE GROUSE BEHAVIOR RESEARCH FOR CONSERVATION

The sage grouse initiative engages Eastern Sierra high school students in collecting and analyzing camera trap data to monitor the breeding behavior of greater sage grouse (*Centrocercus urophasianus*). Data collected are used by both UC Davis researchers and local working groups to make habitat improvements in courtships display areas (known as leks) as part of nuanced conservation efforts.

Students interact with their local environment and scientists working in the area, and use an online platform (Zooniverse) to analyze camera trap photos and classify sage grouse behavior. Researchers learn how local communities relate to natural resources and conservation efforts underway, which can directly inform their ongoing scientific work and future collaboration opportunities with high school students and teachers.

Partners include wildlife biologists from UC Davis, the Bureau of Land Management (BLM), and the Sierra Nevada Aquatic Research Laboratory (SNARL).

FOR YOUR CONSIDERATION

- **What is the significance of bringing students, teachers and community together into an ongoing research program?** (Consider scientific and policy context).
- **How did the scientists embarking on the participatory process learn from the participants and iterate based on those lessons?** (Consider multiple engagement platforms, online and in-person).

FURTHER READING

Further reading on YCCS:

- Science Identity and Agency in Community and Citizen Science: Evidence & Potential
Authors: Ballard, H.L., Harris, E.M., Dixon, C.G.H. White Paper Commissioned by the National Academies of Science and Engineering *Committee on Designing Citizen Science to Support Science Learning*
https://sites.nationalacademies.org/cs/groups/dbasseite/documents/webpage/dbasse_189606.pdf
- Youth-focused citizen science: Examining the role of environmental science learning and agency for conservation. Ballard, H. L., Dixon, C. G. H., & Harris, E. M. *Journal: Biological Conservation*.
<https://doi.org/10.1016/j.biocon.2016.05.024>
- To read more about youth development of environmental science agency through YCCS experiences, read this research brief, and access additional resources at yccs.ucdavis.edu:
https://education.ucdavis.edu/sites/main/files/ccs_yccs_research_brief_esa_final_0.pdf

Further reading on youth involvement sage grouse research:

- The sage grouse case study was one of seven case studies examining YCCS in varying contexts:
<https://education.ucdavis.edu/post/sage-grouse-sierras>
- Read brief overviews of each one, including descriptions of ways in which key youth and educator practices were applied <https://education.ucdavis.edu/yccs-tracking-sage-grouse-field-and-online>
- Two additional blog posts about the sage grouse research collaboration with high school students:
 - Sage Grouse in the Sierras, by Jen Metes: <https://education.ucdavis.edu/post/sage-grouse-sierras>
 - Zooniverse as a Research Tool, by Eric Tymstra: <https://education.ucdavis.edu/post/zooniverse-research-tool>

CASE STUDY 2: Food Delivery Justice

RESEARCH AS TRANSFORMATIVE

Participatory research can do more than just democratize knowledge, it can democratize the *process of creating knowledge*. Especially when asking research questions in collaboration with marginalized communities, histories of exclusion can be addressed, and a community's own questions and answers can be elevated. Such radical inquiry can be reciprocal and transformational, and emphasizes an ongoing connection and power-sharing. Research agendas are made collaboratively in conversation, and can result in significant on-the-ground community change.

NEW YORK CITY FOOD DELIVERY

In New York City, food delivery cyclists are often Asian and Latino immigrants who have been left outside the broader bike advocacy movement, and are frequently depicted by the public and in news media as 'bad' cyclists who break traffic rules and are worthy of increased surveillance and policing.

The rapid expansion of recent bike infrastructure in New York City has not accounted for the needs and lived experiences of such immigrant cyclists. Even as e-bike sharing rose in popularity, delivery cyclists faced increased criminalization for their use of e-bikes.

Through ethnographic research alongside food delivery cyclists, Dr. Do Lee demonstrated that racialized fears were driving public safety concerns, rather than empirical findings. His work contributed to the legalization of e-bikes and the creation of safer working conditions for delivery drivers in New York City.

FOR YOUR CONSIDERATION

- **How does this case study of participatory research help us ask different questions at the research outset regarding immediate community needs?** (Consider ways in which it challenges traditional research approaches, and emphasizes human relationships).
- **How can such research be used constructively to interact with complex political institutions?**

FURTHER READING

Further reading on radical inquiry:

Watson, Vajra. (2019). *Liberating Methodologies: Reclaiming Research as a Site for Radical Inquiry and Transformation*. In *From the Field and the Trenches: Community Empowerment, Sustainability and Community Based Research in Chicana/o Studies*. Editor: Natalia Deeb Sossa. University of Arizona Press.

Further reading on New York City e-bike advocacy:

Lee, Do. et al. (2016). Delivering (in)justice: Food delivery cyclists in New York City. In A. Golub, M. Hoffmann, A. Lugo & G. Sandoval (Eds.), *Bicycle Justice and Urban Transformation: Biking for all?* (pp. 114-129). Routledge.

FOR FURTHER DISCUSSION

- What are the opportunities and challenges that arise when we integrate communities into existing research projects versus creating research agendas in collaboration with community groups?
- How does participatory research interact with traditional research methodologies? How can an intention to integrate communities into research processes complement and change existing methods?
- Where and how are research and learner/community objectives integrated into participatory research? What are the points of conflict?