



# The Bard Community Sciences Lab: Using Science as a Tool for Social Change

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## Overview

The Bard College Community Sciences Lab (CSL) is developing novel methods for conducting cutting-edge water and air quality research while immediately addressing community needs for science in the face of a rapidly changing environment. We use “sciences” to emphasize our dedication to using a broad definition of science, one that includes common sense/science, indigenous science, and other equally concrete and important ways of knowing. We believe that, by centering and elevating the human experience of environment, we can effectively address all environmental challenges – if we collectively are working to protect each others’ rights to clean air and water, we are also working to protect the same for our non-human community members (animals, plants, earth). Our community science partners include watershed groups, city governments, libraries, emergency food kitchens, riverkeepers, universities, research institutions, air quality coalitions, and land trusts. The CSL in its current form is only 3 years old, but many of our community partnerships were developed for over 5 years before the CSL existed. With our team of faculty, students, and staff, we are learning every day how to be better community members and therefore better scientists. For instance, we are just now in the process of developing a meaningful partnership with the Stockbridge-Munsee Band of Mohicans, upon whose unceded land we have been conducting our work these past 8 years. Also, although we have always known that community needs requiring scientific support are pressing (sometimes truly life-threatening) and happening in real-time, we have struggled mightily with the fact that diamond science research approaches often cannot provide real-time solutions. We have only recently addressed this by providing air purifiers for indoor air issues, and water filters for drinking water issues, while using samples gained from these immediate (albeit short-term) solutions for scientific analysis to support longer-term social change efforts.

## What’s with the “s”?

In order to truly make science a community-building tool, we realized we must expand our idea of what science is. All humans think scientifically to make sense of the world around us -- we can't help it. We use “sciences” to make it clear that there are many ways of knowing and of thinking scientifically, and we welcome all of these ways into the lab.

## What is “environment”?

We have learned through community science building that environment cannot be allowed to just describe the outdoor, “pristine” world. Environment is everywhere -- it is human, rock, peanut, water flea, carpet, drywall, mold spore. This means that humans are just as important to conserve as the water, air, and land we protect. Humans are not separate from the environment. We are the environment. This is why we connect air quality with water quality issues, and indoor mold issues with outdoor diesel exhaust issues.

## Who is “community”?

This question is probably the most important of all that the Community Sciences Lab struggles to address. We have learned that we must constantly be defining and refining this term as we use it. Our first step has been to promote the idea that Bard College itself, as an entity, is a community member (steward and owner) in the Saw Kill Watershed, which is part of the Hudson Valley. Our second step, in partnership with the Mellon Foundation funded Rethinking Place: Bard on the Mahicuntuk Initiative, has been to begin the long (and long overdue) process of building trust and partnership with the Stockbridge Munsee Community, original and ongoing inhabitants and stewards of the Saw Kill Watershed.

<https://rethinkingplace.bard.edu/>

## Community Sciences Lab: Processing, processing, processing.....to provide Science Tools for Social Change

	When we started (2014)	Pre-COVID Days (2015-2019)	Reconfiguration (2020-now)
<b>Communications Model</b>	<p>Our overarching goal with the Community Sciences Lab is to support science-based community decisionmaking by stewards of land, air, and water in the Hudson Valley. In order to accomplish this, we see communication across siloed identities as key. We used conceptual modeling to understand communication between stakeholders.</p>	<p>This model describes our approach until COVID hit in 2020. We used Citizen Science projects as a space to build community with citizens, and to bring decisionmakers together with citizens for education and science-based discussion. We reduced our communications outside of shared citizen science spaces.</p>	<p>This aspirational model serves was developed during COVID (reset for all of us!) and was a product of much reading/meeting/thinking/processing. This model exists in an interdisciplinary academic context and operates through several concrete coalitions (see below!) of members of all boxes. Still a work in progress.</p>
<b>Challenges Encountered</b>	<ul style="list-style-type: none"> <li>• Communication between environmental scientists, citizens and decisionmakers were not frequent and often combative/contentious.</li> <li>• Often, folks in one box would assume they had no relation to the other boxes (but decisionmakers are citizens, too, and citizens are sciencing all the time!).</li> <li>• There were very few shared platforms for discussions about environment and science outside of formal lectures, policy-making ventures, or scientific conferences.</li> </ul>	<ul style="list-style-type: none"> <li>• TRUMP: citizens and environmental scientists felt unrepresented by decisionmakers and hopeless re: environment.</li> <li>• Shared platforms formed solely around “citizen” science excluded key stakeholders, including stewards forcibly removed from the land (Stockbridge-Munsee Community), people most vulnerable to poor management of land/air/water, and people who worked several jobs and had families, amongst others.</li> <li>• Data were not being translated for use in education and/or policy-making.</li> </ul>	<ul style="list-style-type: none"> <li>• Health issues are often huge barriers to building community around stewardship of land/air/water.</li> <li>• Climate change is affecting stewardship needs, but seems too “global” and hard to apply to “local.”</li> <li>• Decisionmakers are not open to evidence coming from community leaders, but also are often not open to evidence coming from scientists either.</li> <li>• Dominant science (and academia) has broken community trust on many levels, particularly when it comes to environmental regulations and definitions of “risk.”</li> </ul>
<b>Steps to Address Challenges</b>	<ul style="list-style-type: none"> <li>• Create citizen science projects as platform for education, engagement, and holistic discussion.</li> <li>• Open up the lab to community members interested in doing the lab work themselves.</li> <li>• Use the citizen science projects, and not side conversations, to communicate science, thereby reducing siloing and promoting shared education/discussion between citizens and decisionmakers.</li> <li>• Focus on interdisciplinarity in all efforts.</li> </ul>	<ul style="list-style-type: none"> <li>• Work to be sure that Trump damage (environmental and social) is addressed -- don't shy away from the politics.</li> <li>• Organize and build community sciences with community leaders (coalitions, gatherings).</li> <li>• Re-think “science” and “environment” to reduce colonial thinking and approaches to environmental science and stewardship.</li> <li>• Make data accessible through community-engaged data analysis and translation.</li> </ul>	<ul style="list-style-type: none"> <li>• Educate scientists/staff/students re: what has prevented holistic stewardship of natural resources in the US.</li> <li>• Involve community members in all aspects of research, including peer review.</li> <li>• Keep rethinking “science” and “environment,” build/join community around this effort both locally and globally.</li> <li>• Become active in local community governance (planning boards, Conservation Councils, etc.).</li> </ul>

## Key CSL Community Partnerships (and some other posters to check out!)

**Kingston Air Quality Initiative**  
<https://cesh.bard.edu/community-groups/kingston-air-quality-initiative-kaqi/>

**Saw Kill Watershed Community**  
<https://sawkillwatershed.org/>

**Hudson Valley Air Quality Coalition**  
<https://hvaq.wordpress.com/>

## References/Footnotes/Gratitude

<sup>\*</sup> (from above) model was based on a momentous discussion in ~2017 with Kate Meierdiercks (Sienna College) and Robyn Smyth (Bard College) re: how decisions get made about road salt application in the Hudson Valley. \*\*\*\*\*We are continuing to learn as we build (and rebuild) the Community Sciences Lab, and the following authors/scientists/community leaders have been key to our rethinking of environment and sciences: Gregory Cajete, Kyle Whyte, Max Liboiron, Melissa Nelson, Dina Gilio-Whitaker, Zoltan Grossman, Catherine Coleman Flowers, Karen Schneller-MacDonald, Sayokla Kindness, Tom Goldtooth, Keisha DeFreece Laurence, and many more. Also, if you haven't already, read these books AS SOON AS YOU CAN:

