

Julie Shapiro

Senior Policy Director

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Julie has 14 years of experience in the environmental and natural resource field as a facilitator, mediator, and educator. As a Senior Policy Director at Keystone Policy Center, Julie assists diverse public, private and NGO stakeholders in creating common understanding and forging shared solutions on topics including gene editing, sustainable agriculture and food production, pollinator health, landscape-scale wildlife and habitat conservation, climate change, forest health, water quality, mine reclamation, renewable energy standards, oil and gas planning, carbon capture and storage, and blended learning. Julie has designed and facilitated stakeholder dialogues, public engagement processes, and strategic planning processes on national, regional, state and local scales. Julie holds a Master's degree in environmental studies from the University of Colorado at Boulder and Bachelor's degrees in geosciences and English from Williams College. Prior to joining Keystone Policy Center in April 2008, Julie conducted water policy research and was a natural science educator.

Sample Mediation and Facilitation Experience

➤ Gene Editing

CRISPRcon

With CRISPR/Cas9, the scientific community has handed the world the ability to precisely edit the genes of plants, animals, and humans and other species. This technology could have a profound impact on conservation, agriculture, and human health. It also raises important questions related to bioethics, environmental impacts, safety, regulation, and public engagement. Together with the University of California, Berkeley, Ketchum, and steering committee of CRISPR researchers and thought leaders, Keystone is developing the program for a 2-day conference in Berkeley, CA, that will elevate the diverse voices of those whose communities and lives could be impacted by CRISPR. These stakeholders will play a critical role in assessing the potential of CRISPR to transition from the lab to the outside world. Mallory and the Keystone team are putting together an agenda with both cross-cutting and topic-specific panels, breakout sessions, and networking events featuring thought leaders from academia, industry, civil society, and government. Speakers represent a range of interests and perspectives from the United States and beyond on science, farming, environmental protection, animal health, disease and vector control, patient advocacy, disability rights, racial justice, indigenous cultures, religion, science communications, environmental protection, regulatory systems, community and intergenerational engagement and more. In addition to program development and facilitation, Keystone is working with the CRISPRcon planning team on project management and sponsorship. (2017)

Synthetic Biology and Genetic Technology Engagement in Conservation, Food, Ag and Health

Synthetic biology – the artificial design and engineering of biological systems and living organisms – offers the potential to address a wide array of public health, ecological, and humanitarian challenges. It

also raises important questions related to bioethics, environmental impacts and safety. Keystone is leading discussions with leaders from academia, industry, civil society, and government sectors on this emerging issue. Keystone recently partnered with the Woodrow Wilson International Center for Scholars to convene leadership summit on synthetic biology. Keystone also contributed to a series of events on genetic technologies for species conservation at the 2016 IUCN World Conservation Congress. (2016)

Stakeholder Workshop on Public Engagement Strategies on Genetically Engineered Algae. Keystone partnered with Arizona State University (ASU), North Carolina State University and the Expert & Citizen Science Assessment of Science and Technology (ECAST) Network to convene a half-day stakeholder workshop at ASU. The workshop brought together a diverse group of stakeholder leaders to discuss how best to engage broader public audiences in the governance of genetically engineered (GE) algae. The workshop was funded by the United States Environmental Protection Agency (EPA) and followed an open public meeting convened by the EPA regarding revisions to their guidelines for GE algae under the Toxic Substances Control Act (TSCA). (2016)

➤ **Sustainable Agriculture and Pollinator Health**

Honey Bee Health Coalition

Julie is the lead facilitator convening a diverse, multi-stakeholder collaboration focused on improving honey bee health. Declining honey bee health poses a significant risk to American agriculture, healthy lifestyles, and worldwide food security. The Honey Bee Health Coalition is a diverse, multi-stakeholder collaboration that helps achieve a healthy population of honey bees while also supporting healthy populations of native and managed pollinators in the context of productive agricultural systems and thriving ecosystems. The Coalition is advancing solutions in bee forage and nutrition, husbandry, agricultural management practices, and cross-industry coordination. The Coalition includes beekeepers, researchers, regulators, agribusinesses, growers, conservation groups and other key partners. (2013-present)

Monarch Collaborative

Monarch populations have declined over the past two decades. The Monarch Collaborative, a diverse and dedicated group of organizations spanning the research community, agricultural production, conservation causes, and public agencies is working to identify how partnerships in the farming and ranching community can support and enhance habitat for a sustainable monarch population. The Collaborative is utilizing the expertise and experience of its members to: 1) Identify agricultural and conservation practices to support healthy monarch populations, 2) Increase awareness of those strategies with the agricultural community and other interested parties, 3) Promote the implementation of practices that will support monarch butterfly populations in agricultural landscapes. Julie provides strategic facilitation support to the Collaborative. (2016-present)

World Wildlife Fund Animal Protein Strategic Planning

Julie designed and facilitated an assessment and strategic planning process for World Wildlife US's animal protein team working on issues related to beef, dairy, aquaculture and seafood. The strategic plan sets objectives, priorities, and activities within WWF's Food Goal. (2014-2015)

Field to Market: The Alliance for Sustainable Agriculture

Julie was a senior facilitator and project manager for Field to Market, a collaborative stakeholder group comprised of agricultural producers, agribusinesses, food, restaurant and retail companies, conservation organizations, universities, and federal agencies striving to create a supply chain system for sustainability in agriculture. The group is developing environmental and socioeconomic indicators to measure outcomes for on-farm U.S. commodity crop production, developing online calculators that allow growers to benchmark their own practices, and developing supply chain programs to promote continuous improvement in agriculture. Julie facilitated a variety of Field to Market initiatives including the development of metrics for agricultural sustainability in areas including water quality, biodiversity, greenhouse gases, and energy. Field to Market is now an independent, 501(c)3 organization. (2008-2014)

Sustainable Beef Workshops

Julie worked with World Wildlife Fund US, National Cattlemen's Beef Association (a contractor to the Beef Checkoff), and other trade associations, conservation organizations, and private sector companies in the design and implementation of a series of workshops on sustainable beef. Through a combination of field tours, presentations, and discussions, the workshops brought together a diverse supply chain audience and engaged participants in joint dialogue and information-sharing about sustainability efforts happening today, how ranchers and companies throughout the supply chain view sustainability, and the challenges and needs of upstream producers and downstream users. (2012-2014)

Mississippi River Agricultural Working Group

Julie co-facilitated and provided project management support for a multi-stakeholder dialogue of growers, businesses, and conservation organizations working to continue to reduce nutrient run-off while keeping farms productive and profitable in the Mississippi River Watershed. (2009-2010)

➤ Natural Resource and Landscape Conservation

Advisory Committee on Climate Change and Natural Resource Science (ACCCNRS)

Julie facilitated the Advisory Committee on Climate Change and Natural Resource Science (ACCCNRS), which advises the Secretary of the Interior on the operations of the U.S. Geological Survey (USGS) National Climate Change and Wildlife Science Center (NCCWSC) and the Department of the Interior (DOI) Climate Science Centers (CSCs). The committee's membership and procedures are compliant with the Federal Advisory Committee Act (FACA). ACCCNRS is composed of 25 members that represent (1) State and local governments, including state membership entities; (2) Nongovernmental organizations, including those whose primary mission is professional and scientific and those whose primary mission is conservation and related scientific and advocacy activities; (3) American Indian tribes and other Native American entities; (4) Academia; (5) Landowners, businesses, and organizations representing landowners or businesses. (2016)

Chenier Plain Partners Meeting

The Chenier Plain is a 5 million-acre coastal region in Southwest Louisiana and Southeast Texas that provides important ecological and recreational resources and serves as a major energy development, port, and defense resource for the nation. The Chenier Plain's resilience is threatened by extreme

weather events, sea level rise, and pollution events including major oil spills. The Chenier Plain Partners meeting held in August 2016 brought together local, state, and federal government representatives and NGOs from across the Chenier Plain in Louisiana and Texas. Meeting objectives were to develop a common understanding of partner conservation objectives, priorities and constraints in the Chenier Plain; identify common vision, goals and potential strategies for enhanced regional or landscape scale partnership for conservation in the Chenier Plain, inclusive of the existing Chenier Plain Alliance as well as new partners; and determine the next steps for collaboration. (2016)

Landscape Conservation Cooperatives:

Desert, Southern Rockies, Great Plains and Gulf Coast Prairie

Julie has provided facilitation for the Desert, Great Plains, Gulf Coast Prairie, and Southern Rockies Landscape Conservation Cooperatives (LCCs). LCCs are management-science partnerships for addressing climate change and other stressors at a landscape scale. LCCs provide opportunities to develop, access and share applied science as well as leverage funding, information and technical expertise for applied science projects. The LCCs are part of a nationwide U.S. Department of Interior initiative that involving federal, state, tribal, academic, non-governmental, and private sector stakeholders. Julie has assisted the LCCs in establishing governance guidelines, in identifying shared science priorities, and in developing strategic plans. (2010-2015)

Colorado West Slope Mule Deer Strategy

Across the West, state wildlife agencies have been seeing declines in mule deer populations. Julie was the lead facilitator for a Keystone team that is planning and facilitate seven local public meetings and a Statewide Summit to discuss the issues facing the Colorado West Slope mule deer populations and garner public input on a Colorado West Slope Mule Deer Strategy that will guide Colorado Parks and Wildlife's efforts to work towards increasing deer populations. (2014)

National Parks CEO 2012 Forum

Julie provided facilitation support to assist CEOs from National Parks and protected areas around the world to come to agreement on a declaration to use their assets to reconnect people with nature. The declaration, signed in Jeju, Korea in 2012 was endorsed by CEOs of National Parks and Protected Areas from the Americas, Asia and Africa. (2013)

Governor's Colorado Forest Health Advisory Council

Julie facilitated the Colorado Forest Health Advisory Council, which was created in February 2008 by Colorado Governor Bill Ritter to coordinate and lead efforts that address threats to Colorado's 24.4 million acres of forestland. Key objectives of the Council were to facilitate fire-resilient communities, restore and maintain forest health across the state, and ensure consensus-oriented forest management that contributes to local economic sustainability, including private sector opportunities. The Council was comprised of a diverse group of stakeholders including representatives from state and federal agencies, local government, non-governmental organizations, forest industry, water providers and the academic community. (2010-2011)

New Mexico Smoke Management Program Working Team

Julie was part of the facilitation team for a collaborative working team revising smoke management regulations for the state of New Mexico's Air Quality Bureau. The group was comprised of federal land

managers, state regulatory agencies, state and private land owners, conservation groups, and public health advocacy groups. The Smoke Management Rule regulates registration, notification, monitoring, and tracking of smoke emissions due planned and unplanned wildfires on federal, state, and private lands. The rule was being revised to conform with the federal haze regulations and other EPA regulations on particulate matter and fire and smoke tracking. (2010)

Governor's Colorado Bark Beetle Summit 2010

Julie helped to plan and facilitate this one-day summit to discuss the state of Colorado's bark beetle epidemic and develop ongoing strategies to address the crisis. The Summit involved a leadership panel including Colorado Governor Bill Ritter, Jr., U.S. Senator Mark Udall, and USDA Forest Service Chief Tom Tidwell as well as presentations and panel discussions among other government, NGO, and private sector stakeholders involved in responding to the beetle outbreak. The Summit included a focus on the role of the private sector in addressing the epidemic. (2010)

Marine Mammals and Sound: Science and Application Workshop

Julie was part of the facilitation team for a two-day workshop co-chaired by the U.S. Navy, the National Oceanic and Atmospheric Administration (NOAA), and the Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE). This interactive workshop with governmental, academic, and non-governmental stakeholders solicited input on key issues that underlie analysis of the effects of anthropogenic sound on marine mammals and the development of appropriate mitigation and monitoring measures. The workshop involved plenary sessions, break-out groups, and electronic polling. (2010)

Southeast Sustainable Forestry Negotiation

Keystone Policy Center facilitated an important consensus on key criteria for identifying endangered forests between Georgia-Pacific LLC, Rainforest Action Network, Natural Resources Defense Council and the Dogwood Alliance. These criteria are the basis upon which endangered forests will be identified and mapped by Georgia-Pacific in its key supply regions. Keystone also facilitated a dialogue among the parties to identify natural hardwood forests, which became an important building block to Georgia-Pacific's final definition of natural hardwoods. In addition, Keystone facilitated the selection of independent scientists and their input into both the endangered forest and natural hardwood deliberations. (2008-2009)

➤ **Water Quality and Quantity**

Snake River Watershed Task Force

Julie facilitates the Snake River Task Force, a stakeholder group working to characterize the water quality issues in the Snake River basin and identify appropriate mitigation projects. The Snake River, which flows through Keystone, CO, is impacted by mining activities that took place at the turn of the 20th century. The Task Force is comprised of Federal, State and local agencies, conservation organizations, and private companies. (2010-present)

Grand Lake Clarity Standard Stakeholder Committee

Grand Lake is Colorado's largest natural lake, with important recreational and aesthetic values for visitors and residents. It is also a component of the Colorado-Big Thompson (CBT) project that delivers

water and energy to the Eastern Slope. Grand Lake's clarity is impacted by operations of the CBT system as well as by natural and seasonal factors. A narrative clarity standard is currently in place for Grand Lake. The Stakeholder Committee worked together to gain mutual understanding of constraints on attainability and to develop an attainable and protective clarity standard to propose to Colorado's Water Quality Control Commission. The proposal resulting from stakeholder efforts was approved by the Commission in 2016. (2014-2015)

Colorado Climate Plan: Water Sector Public Engagement Session

Keystone facilitated a half-day public comment and input session of 40 participants on the water-related details of Colorado's Climate Plan. (2016)

Youth Policy Summit on Alabama Water Resources

Julie worked with Keystone's Center for Education to design and deliver a one-week program for high school students in Birmingham, Alabama. The program introduced students to negotiation, consensus-building, and policy-making in the context of the political, environmental, social, economic, legal, scientific, and technological dimensions of water quantity and quality issues in the state. The students conducted research on the issues and policy opportunities and created consensus recommendations based on various stakeholder perspectives including industry, NGO, government, and research/academia. (2010-2011)

➤ **Oil and Gas Development, Renewable Energy and Mining**

South Park Master Leasing Plan Stakeholder Workshops

The Master Leasing Plan (MLP) that is being developed for the area of South Park, Colorado will establish a guiding framework and vision for future oil and gas leasing and development on federal public lands managed by the BLM in this area. The South Park MLP will nest within the Resource Management Plan for the Royal Gorge Field Office. Key issues are identifying and addressing resource conflicts, objectives for resource conditions and resource protections. The South Park Master Leasing Plan Stakeholder Workshops were independently convened by Coalition for the Upper South Platte (CUSP) and Keystone Policy Center (Keystone). The workshops brought together invited stakeholders in discussion of data, facts, perspectives, and management suggestions related to the South Park MLP. A final report synthesizes the range of stakeholder interests and management suggestions for the South Park MLP. (2014-2015)

Moab Master Leasing Plan Mapping Workshops

The Moab Master Leasing Plan (MLP) considers a diversity of conservation, recreation, and resource development interests near Moab, Utah and neighboring Arches and Canyonlands National Parks. The MLP provides additional planning and analysis prior to new leasing of oil and gas and potash within the Planning Area and considers new mineral leasing stipulations, development constraints, and/or closures to leasing accomplished through amendments to the land use plans (Moab and Monticello Resource Management Plans). Julie facilitated two Moab Master Leasing Plan Stakeholder Mapping Workshops that were initiated independent of the BLM's MLP process and brought together private sector and NGO stakeholders to share and discuss map data layers reflecting their interests within the Moab MLP area. The workshops enabled participants to better understand the various concerns and

interests held by each stakeholder. A final report synthesized the range of stakeholder input on interests and management suggestions. (2014)

Colorado Renewable Energy Standard

Julie was the lead facilitator for the Advisory Committee to the Director of the Colorado Energy Office (CEO) on the Effectiveness of SB13-252, the Increase of Colorado's Renewable Energy Standard so as to Encourage the Deployment of Methane Capture Technologies. This legislation increases the renewable energy standard for electric cooperative utilities from 10 percent to 20, to be accomplished by 2020 and expands the definition of renewable energy to include coal mine methane and gas produced from municipal solid waste. On June 5, 2013, Governor John Hickenlooper signed SB13-252 into law, and simultaneously issued an Executive Order (EO) to address concerns raised during the legislative process. The EO formed an advisory committee that will work to fully address these concerns, culminating in proposals for the 2014 legislative session. The EO provided the advisory committee with three areas of focus concerning the effectiveness and improvement of SB 13-252: (1) the feasibility of the 2020 deadline; (2) administrative and legal issues related to the 2% rate cap; and (3) legislative proposals for the 2014 session. (2013)

Carbon Sequestration Environmental Justice Public Engagement Meetings

Julie was the project director for a set of meetings designed to engage and inform local community members on an U.S. Environmental Protection Agency (EPA) Region 5 permit review process regarding a proposed carbon sequestration project in Decatur, IL. Archer Daniels Midland (ADM) applied for permits to construct and operate two Class VI injection wells for the purpose of geologic sequestration (capture and storage) of carbon dioxide (CO₂) produced by its agricultural products and biofuel production facility. Concerns that could arise from the project include the potential for endangerment to underground sources of drinking water, accidental release of CO₂, and injection-induced seismicity. The proposed injection wells are slightly less than three miles from an area in Decatur with the potential for Environmental Justice (EJ) concerns given the proximity of a large population of low income levels as well as low literacy rates. These permits would be the first of their kind in the United States and the work of Keystone Policy Center will help inform future related efforts throughout the country. (2012-2013)

Colorado Oil and Gas Dialogue

The debates around oil and gas development in the U.S. have intensified in recent years as the prevalence of hydraulic fracturing in previously untapped areas has become far more predominant and visible to the public. Keystone convened a group of stakeholders in 2013 who met to identify candidate recommendations for addressing key concerns. Stakeholders included oil and gas companies, local and state government and environmental NGO's. (2013)

Keystone Dialogue on the Potential Development of the Pebble Mine

Julie provided project support for a dialogue on the potential development of the Pebble Mine in Southwest Alaska. In 2008, Keystone conducted an assessment of stakeholder perspectives regarding the proposed mine and its potential impacts on economic, cultural, environmental, and subsistence resources in the region, including those related to salmon runs. Keystone is now developing a process involving independent science panels, joint fact finding, and collaborative planning. The first panel, titled "Responsible Large-Scale Mining: Global Perspectives" was held in December 2010 and brought

together experts from academia, non-governmental environmental, cultural, and sustainable development organizations, and the mining industry to discuss principles, criteria, and standards for responsible mining. (2008-2011)

➤ **Education, Health, and Community Sustainability**

Colorado Blended Learning Roadmap

Colorado Empowered Learning partnered with the Keystone Policy Center to develop and execute a statewide effort to gather perspectives on Colorado's use of supplemental online and blended learning in K-12 education. The resulting roadmap will shape and inform Colorado's approach to blended learning – the use of digital content in partnership with traditional classroom learning. The roadmap focuses on priorities related to community awareness, educator training, school financing policy, and access to quality technology and digital content. The process included interviews with other states and leading experts in the field, meetings in communities across Colorado and surveys of school and district leaders, educators, families, and others working in education. A core team of educators, education policy leaders, and other key stakeholders guided the effort to ensure the statewide plan reflects school districts' needs and helps position Colorado students for success. (2017)

LiveWell Colorado Worksite Wellness Blueprint

As a co-facilitator, Julie designed and conducted a stakeholder engagement process for LiveWell Colorado, a nonprofit seeking to promote health through the prevention and reduction of obesity. Meetings, interviews, and an online survey were designed to engage stakeholders in identifying worksite wellness strategies for Colorado at the worksite, local, regional, and state level and in designing a Leadership Group to prioritize future efforts. The project culminated in the drafting of a Worksite Wellness Blueprint outlining current efforts and future opportunities. (2009)

H1N1 Vaccination Implementation Strategy

Julie was part of the facilitation team conducting a series of public engagement meetings for the Centers for Disease Control and Prevention regarding the voluntary 2009 H1N1 (Swine Flu virus) vaccination program. Julie assisted in facilitation, recruitment, and logistics for three of ten regional meetings designed to engage the public on what type of implementation strategy the U.S. should adopt for vaccinating Americans against the current pandemic influenza virus. (2009)

Reducing Healthcare-Associated Infections

Julie was part of the facilitation team conducting a series of stakeholder and public engagement meetings for the U.S. Department of Health and Human Services regarding healthcare-associated infections. While largely considered preventable, healthcare associated infections currently result in 99,000 deaths and cost 26 billion dollars annually in the U.S. These meetings were designed to engage healthcare professionals, state and local government officials, consumer advocates, and citizens on how to reduce and ultimately eliminate these infections. Julie designed and facilitated break out sessions and played a significant role in writing the project's final report. (2009)

Town of Breckenridge Sustainability Action Plan Community Engagement

Julie co-facilitated the "Sustainable Breck" community engagement process, designing and leading a series of five public meetings and online surveys intended to gather community feedback on

sustainability priorities for the Town of Breckenridge. The meetings included plenary presentations, workshop discussion sessions, and electronic polling. Sustainable Breck was selected as a 2011 APA Colorado Excellence Award in the Category of Sustainable Planning Project. (2010)

Education, Training, and Certificates

University of Colorado - Boulder, Masters of Science in Environmental Studies, 2007

Williams College, Bachelor of Arts in Geosciences and Bachelor of Arts in English, 2003, *summa cum laude* and Phi Beta Kappa

The Mediation Process (CDR Associates), 2008

Articles and Publications

Adler, PS, Bryan, T, Mulica, M, Shapiro, JS. Joint fact finding: A Strategy for bringing science, policy and the public together when matters get contentious. <http://www.mediate.com/articles/AdlerJoint.cfm>

Giovannucci, D, Scherr, S, Nierenberg, D, Hebebrand, C, Shapiro, J, Milder, J, and Wheeler, K. 2012. Food and Agriculture: the future of sustainability. A strategic input to the Sustainable Development in the 21st Century (SD21) project. New York: United Nations Department of Economic and Social Affairs, Division for Sustainable Development.

Employment

Keystone Policy Center, Senior Policy Director

Keystone, CO (2008-present)

- Designs collaborative stakeholder processes to deliver impactful solutions, strategies and policies on contentious issues in environment, natural resources, agriculture, and other topics
- Facilitates meetings and teleconferences
- Conducts issue assessments
- Manages complex projects, diverse teams, project contractors, and logistics
- Communicates with participants, funders, and interested parties
- Develops new projects; researches policy issues, project and funding opportunities, writes proposals, and develops work plans and budgets
- Writes, designs, and edits project documents and other materials (including meeting summaries, final reports, agendas, electronic correspondence, website text, and surveys)

University of Colorado, Teaching Assistant

Boulder, CO (2007)

- Designed and taught a classroom- and field-based geology lab for the Department of Geology and a recitation (entitled "Environment and Culture") for the Department of Geography. Developed curriculum and course materials, facilitated group discussions, and evaluated student performance in writing and critical thinking.

Natural Resources Law Center, Research Assistant

Boulder, CO (Summer 2007)

- Analyzed policies involving climate change and water resources in the American West.

The Nature Conservancy, Research Assistant

Boulder, CO (Summer 2007)

- Analyzed public spending for conservation projects in the Colorado River Basin. Researched legal and policy dimensions of water management for endangered species.

Watershed Approach to Stream Health Project, Education and Outreach Intern

Boulder, CO (Fall 2006)

- Organized and led neighborhood meetings to raise awareness and inspire water quality and conservation stewardship for the City of Boulder/WASH Project.

Walking Mountains (formerly Gore Range Natural Science School), Youth Programs Coordinator and Educator

Avon, CO (2003-2006)

- Coordinated, developed curriculum for, supervised, and instructed K-12 field and classroom natural science programming.

University of Rhode Island, Oceanography Research Fellow

Narragansett, RI (Summer 2003)

- Conducted field and laboratory research to investigate the environmental history of Somes Sound (Acadia National Park, ME) using physical and chemical properties of sediment cores.