

Julie Shapiro Senior Policy Director Director, Natural Resources and Emerging Technologies Programs

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Julie has 16 years of experience in the natural resource field as a facilitator, mediator, and educator. As a Senior Policy Director at Keystone Policy Center, Julie directs Keystone's natural resources program and its emerging technologies program. Julie creates, facilitates, and sustains strategic partnerships and collaborations, enabling common understanding and forging shared solutions to complex problems for people, land, water, and wildlife. Julie creates and facilitates pathways for diverse government, business, academic, and NGO leaders to reach common higher ground on challenging natural resource, technology, and societal issues, helping to move stakeholders from contention to collaboration. Substantive focus areas include gene editing and other emerging technologies, sustainable agriculture production, pollinator health, and natural resource management including water resources, biodiversity, oil and gas development, energy, and recreation. Julie has designed and facilitated stakeholder dialogues, public engagement processes, strategic planning processes, and summits on international, 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.

Examples of recent facilitation efforts that Julie has led and their outcomes:

- <u>CRISPRcon</u>: Conversations on Science, Society and the Future of Gene Editing: Program lead for a series of international summits resulting in deepened awareness and understanding of societal perspectives on new technologies in conservation, agriculture, and health, with emphasis on diversity, equity, ethics, and risk/benefit considerations and including international perspectives and event locations (2017-present)
- <u>Boldy Forward</u>: Lead facilitator for the bi-partisan Energy, Natural Resources, and Agriculture Transition Committee for Colorado Governor-elect Jared Polis that informed the selection of cabinet positions and developed reforms and opportunities recommendations for the CO Energy Office, Department of Natural Resources, and Department of Agriculture. (2018)
- <u>Honey Bee Health Coalition</u> –Lead facilitator for a coalition producing a wide variety of tools, resources, research and initiatives for agricultural stakeholders including beekeepers and farmers on topics including pollinator forage and habitat, pesticide best practices, and hive management; (2013-present)
- Field to Market: The Alliance for Sustainable Agriculture Lead facilitator of a multi-stakeholder effort resulting in environmental and socioeconomic indicators to measure outcomes for on-farm U.S. commodity crop production (land, water, energy, et. al.), online calculators that allow growers to benchmark their own practices, and supply chain programs to promote continuous improvement in agriculture (2008-2014; with Julie's support, became a separately staffed non-profit organization in 2015)
- Landscape Conservation Cooperatives: Desert, Southern Rockies, Great Plains and Gulf Coast Prairie – Lead facilitator that helped to launch several members of the LCC network, a U.S. Department of the Interior initiative involving federal, state, tribal, academic, non-governmental, and private sector stakeholders to develop science-based transboundary natural resource management recommendations in response to climate change and other large-scale stressors. (2010-2015)

- Snake River Watershed Task Force Lead facilitator for a stakeholder group comprised of federal, state and local agencies, conservation organizations, and private companies that resulted in identification and implementation of multiple mine reclamation and related mitigation projects to improve water quality in the watershed. (2010-2019)
- Grand Lake Clarity Stakeholder Committee Lead facilitator of a stakeholder and agency committee resulting in a clarity standard proposed to and approved by Colorado's Water Quality Control Commission and an accompanying multi-stakeholder MOU for adaptive management that considers the recreational and aesthetic values of the lake as well as its importance as part of the Colorado-Big Thompson project that delivers water and energy to Colorado's Eastern Slope (2014-2015)
- Moab Master Leasing Plan, South Park Master Leasing Plan, and Carlsbad Resource Management Plan Stakeholder Workshops – Lead facilitator of roundtables resulting in enhanced community and stakeholder communication and understanding and publicly available <u>reports</u> on stakeholder perspectives and management suggestions for Bureau of Land Management multi-use planning for oil and gas, recreation, conservation, agriculture, water, et. al. (2014-15; 2018)
- Colorado West Slope Mule Deer Strategy: Lead facilitator for 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.
- Colorado Public Lands Recreation Planning: Lead facilitator or senior advisor on a variety of stateand community-scale recreation planning efforts for state or federal lands facing challenges related to growth in population, recreation, and tourism: Eldorado Canyon State Park Visitor Management Plan, Browns Canyon National Monument Sustainable Alternative, Routt Recreation Roundtable, Basalt Shooting Range Public Listening Sessions, and State of Colorado Outdoor Recreation Plan (2018-2019)
- Governor's Advisory Committee on the Colorado Renewable Energy Standard Lead facilitator of a multi-stakeholder task force charged with developing a <u>report</u> of key findings and recommendations to the Colorado Energy Office and Governor Hickenlooper regarding legislation that increased the renewable energy standard for electric cooperative utilities. 2013)

Education, Training, and Certificates

University of Colorado - Boulder, Masters of Science in Environmental Studies, 2007, concentration in Natural Resources Policy and Management in the American West

Williams College, Bachelor of Arts in Geosciences and Bachelor of Arts in English, 2003, summa cum laude and Phi Beta Kappa; Williams-Mystic Maritime Studies Semester

Articles and Publications

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

Delborne J, Shapiro J, Farooque M, Ford T, George D, and Dermer S. "Exploring Stakeholder Perspectives on the Development of a Gene Drive Mouse for Biodiversity Protection on Islands." Summary Report of Stakeholder Interviews. February 2019. Available online at <u>https://go.ncsu.edu/ges-gene-drive-landscape.</u>

Farooque M, Barnhill-Dilling SK, Shapiro J, and Delborne J. "Exploring Stakeholder Perspectives on the Development of a Gene Drive Mouse for Biodiversity Protection on Islands" Workshop Report. June 2019. Available online at <u>http://go.ncsu.edu/ges-gene-drive-workshop</u>.

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. <u>https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2054838</u>

Thizy D, Emerson C, Gibbs J, Hartley S, Kapiriri L, Lavery J, Lunshof J, Ramsey J, Shapiro J, Singh JA, Toe, LP, Coche I, Robinson B. (2019) Guidance on stakeholder engagement practices to inform the development of area-wide vector control methods. PLoS Negl Trop Dis 13(4): e0007286. https://doi.org/10.1371/journal.pntd.0007286

Employment

Keystone Policy Center

Senior Policy Director (2011-Present); Associate (2008-2011), Keystone, CO

- Designs and facilitates stakeholder dialogues, public engagement processes, issue assessments, and strategic planning processes on national, regional, state and local scales; international experience
- Routinely works with federal, state and local policymakers and regulators, business leaders including corporate sustainability leaders and other business leaders, scientists, farmers, conservation leaders, and the public
- Helps to negotiate complex, high-profile, and/or sensitive agreements while maintaining a commitment to third-party independence in support of all parties and interests involved
- Develops and manages approximately 5-10 projects simultaneously
- Fundraises for projects, writes and reports on grants, maintains donor relationships with private, public, NGO, and academic funders; annual project fundraising totaling approximately \$1 million
- Manages complex, multi-year, multi-million-dollar collaboratives as well as shorter-term advisory groups, engagement meetings and summits
- Designs and executes against project objectives, strategic plans, action plans, budgets and timelines
- Supervises multiple internal project teams of up to 5-10 people each within a complex, nonprofit matrix organization with multiple geographic locations and multiple, cross-cutting substantive focus areas
- Manages and communicates effectively and professionally with diverse project participants of up to 50 organizations per project
- Manages project subcontractors up to 10 per project, including communications, graphic design, technical/analytic services, and legal services
- Oversees project communications, outreach and media interactions
- Develops and/or reviews and finalizes agendas, final reports, presentations, meeting summaries, press releases, marketing materials, surveys, et al.

Additional Experience

The Nature Conservancy, Water Policy Research Assistant, Boulder, CO (Summer 2007) **Natural Resources Law Center,** Water Policy Research Assistant, Boulder, CO (Summer 2007) **Watershed Approach to Stream Health Project,** Water Stewardship Outreach Intern, Boulder, CO (Fall 2006)

University of Colorado, Graduate Teaching Assistant, Geology and Geography Departments, Boulder, CO (2007)

Walking Mountains Science School, Youth Programs Coordinator and K-12 Educator, Avon, CO (2003-2006)

University of Rhode Island, Oceanography Research Fellow, Narragansett, RI (Summer 2003) **The Hole in the Wall Gang Camp**, Aquatic Programs specialist for children with life-threatening diseases, Ashford, CT (2001, 2002)

Mediation and Facilitation Experience

Categorized below under the following topics: Emerging Technologies/Science and Society; Sustainable Agriculture and Pollinator Health; Natural Resources Management

Emerging Technologies; Science and Society

CRISPRcon: Conversations on Science, Society and the Future of Gene Editing

The scientific community has handed the world a powerful tool: the ability to make precise edits to the DNA in living cells. These technologies could allow us to transform our food, health and ecological systems. They also raise important questions about risks, benefits, ethics, equity and more. CRISPRcon, a program of Keystone Policy Center, advances broad dialogue across gene editing applications on whether and how these technologies should make the transition from the lab into society at large. CRISPRcon brings together a range of interests and perspectives 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. CRISPRcon launched in 2017 at UC Berkeley and returned in 2018 hosted by the Broad Institute of MIT and Harvard and the McGovern Institute for Brain Research at MIT with program development partnership from the Personal Genetics Education Project (pgEd) of the Department of Genetics at Harvard Medical School. In June 2019, CRISPRcon held an event in the Netherlands, hosted by the University of Wageningen. An event will also be held in Madison, Wisconsin in October 2019. Keystone is also planning additional events in the United States and internationally for 2020 and beyond. CRISPRcon is also piloting an 'inspired by CRISPRcon' model to support independent organizers who want to create a CRISPRcon-like event in their own communities; this model was piloted by the University of Tsukuba in Japan in September 2018. Julie directs the overall CRISPRcon program and team. (2017-present)

Stakeholder Perspectives on Developing a Gene Drive Mouse for Biodiversity Protection on Islands Gene drives – mechanisms for biased inheritance –have implications for a wide range of fields, including public health, ecology, national security, and more. Gene drives can occur naturally in populations, but scientists are working to develop new drives in the lab through genetic engineering. Potential applications of these genetically engineered drives include eradicating mosquitoes to address the spread of human and avian malaria and eliminating invasive rodents on islands. Communities, stakeholders, and the broader public will likely be following their development, whether with enthusiasm, opposition, concerned scrutiny, or a combination of all of the above. Keystone worked in partnership with North Carolina State University and Arizona State University to incorporate stakeholder input into gene drive research exploring the feasibility and suitability of the use of gene drives for control of invasive rodents, which threaten island ecologies and biodiversity. Activities included a landscape analysis of stakeholder interests and perspectives surrounding the development of a gene drive mouse for biodiversity protection in island settings and a stakeholder workshop. Both the stakeholder analysis and laboratory research are funded through the United States Defense Advanced Research Projects Agency's (DARPA) Safe Genes program. Reports are available at https://research.ncsu.edu/ges/research/biodiversity-and-gene-drive-mice/ (2017-2019)

Stakeholder engagement practices to inform the development of area-wide vector control methods

Recent technological developments in the field of vector control (for example those relating to novel gene drive techniques) have led to significant interest in effective stakeholder engagement for areawide vector control interventions. As these approaches may not offer individuals the chance to 'opt out', as would be possible during the testing of other medical interventions (e.g. vaccine field trials), unique considerations apply. Through a series of online consultations and a workshop, Julie served as part of a multi-disciplinary team of experts and practitioners contributing to a paper on guidance on stakeholder engagement practices to inform the development of area-wide vector control methods. The document, published in 2019, aims to provide guidance on designing and implementing stakeholder engagement programs as part of the research pathways for the development of these interventions. The guidelines are framed to be useful to many different stakeholders, including project researchers, funders, policy-makers, regulators, and local communities. The document is available at https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0007286 (2019)

Control and Access: Intellectual property and CRISPR-Cas gene editing for innovation in crop agriculture Julie serves as an advisory board member to a conference organized by Colorado State University that will explore issues of ownership and access for new gene edited crops. As new gene-edited crops are beginning to emerge from the lab and start moving toward commercial application, what will the complex and evolving legal landscape look like, what are the concerns of stakeholders regarding control and access, and what are the implications of new ownership and licensing frameworks for benefits and risks of using CRISPR in a wide range of innovations for sustainable agriculture? (2019)

Denver Museum of Nature and Science Symposium: The Role of Science in Policy Making

Partnering with the Denver Museum of Nature and Science's Institute for Science & Policy, Keystone designed and facilitated a 1-day symposium featuring leading voices on science and policy. The symposium considered the past, present and future of science in policy and decision-making from a variety of disciplines and sectors; explored how science interacts with 'values,' 'morals,' 'ethics,' 'emotions,' and other influencers of decision-making and policy setting; and provided insights and tools for incorporating scientific information in decision-making. The engaging event featured panel discussions and interactive audience polling and brought complex science-policy issues to life through insights and cases studies on top-of-mind science subjects like vaccines, climate change, and gene editing. (2018)

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 Resources Management

Boldy Forward: Colorado-Governor-Elect Polis Transition Committee on Energy, Natural Resources and Agriculture. Colorado's Governor-Elect Jared Polis launched a Transition Committee in November 2018 to ensure inclusivity and informed decision-making in the selection of state Cabinet positions and identification of key operational reforms and opportunities. To guarantee an efficient, transparent, nonpartisan, and inclusive process to focus on what's best for all Coloradans, the operations and work of the transition subcommittees were coordinated by the Keystone Policy Center. Over a two-month period, Keystone coordinated the work of seven subcommittees to create and implement a candidate screening process that reviewed hundreds of applications and resulted in the selection of key cabinet and other Governor's Office positions. In addition, Keystone facilitated the development committee reports, one to each department, on key operational reforms and opportunities. Julie facilitated the transition committee on Energy, Natural Resources, and Agriculture, resulting in recommendations to inform selection of director/commissioner positions for Colorado Energy Office, Department of Natural Resources, and Department of Agriculture as well as reforms and opportunities recommendations for each department (2018-2019)

Eldorado Canyon State Park Visitor Use Management Plan

Eldorado Canyon State Park has experienced increasing visitation and reaches maximum vehicle capacity much of the year, especially during summer weekends and holidays. Illegal parking on the surrounding roads, traffic congestion, and negative impacts to natural resources are degrading visitor experiences and impeding traffic flow for emergency services and nearby residents. To address the problem, Colorado Parks and Wildlife has convened a one-year planning process inclusive of a capacity study and engagement of a stakeholder task force, and interagency team, and the general public to provide feedback into the development of a visitor use management plan. The VUMP process will look for solutions for Eldorado Canyon State Park, specifically, and will also document "lessons learned" and "best practices" and develop a system for establishing and monitoring capacity to replicate this process in other high-use parksJulie is the lead facilitator and engagement consultant for the effort (2019-2020).

Snake River Watershed Task Force

The Snake River, which flows through Keystone, CO, is impacted by mining activities that took place at the turn of the 20th century. 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 Task Force is comprised of Federal, State and local agencies, conservation organizations, and private companies. (2010-2019)

Browns Canyon National Monument Sustainable Alternative

Keystone facilitated a collaborative, community-based group in its development of recommendations to the U.S. Bureau of Land Management regarding the resource management plan for the recently designated Browns Canyon National Monument. The group of approximately 20 Chafee County, CO citizens represented various organizations in the community with diverse interests that came to an agreement on a sustainable alternative plan that it submitted to the BLM. Julie was a senior advisor to the design and facilitation of the effort. (2019)

Routt Recreation Roundtable: Mad Rabbit Trails Discussion

This convening brought together a diverse set of user groups and interests to discuss and, to the extent possible, develop collective recommendations regarding the proposed Mad Rabbit trails system on U.S. Forest Service lands in Routt County, Colorado. The 30-person roundtable met over a series of meetings to discuss the interests and perspectives of bikers, equestrians, hikers, hunters, motorized users, trail runners, wildlife and environmental advocates, motorized users, and more. Julie was a senior advisor to the design and facilitation of the effort as well as the subsequent design of a standing roundtable. (2019)

Colorado Statewide Comprehensive Outdoor Recreation Plan (SCORP)

Julie was the senior project advisor on the design of a stakeholder workshop to help Colorado Parks and Wildlife facilitate the development of the 2019-2023 SCORP, which identified Colorado's top priorities for outdoor recreation and strategies that will inform management and funding for the next five years. The workshop resulted in goals, objectives and draft strategies to achieve top priority areas for the SCORP. (2018)

Carlsbad Resource Management Plan Community Roundtables

The Carlsbad field office of the Bureau of Land Management's Resource Management Plan (RMP) guides the management of 2.1 million acres of public land in Eddy, Chaves, and Lea Counties, New Mexico. The plan guides all management within the planning area for 20-30 years, including what areas are available for energy development, recreation, and conservation priorities. Keystone facilitated two community roundtables that were designed to enable community members and stakeholders to share perspectives, challenges and opportunities regarding land management in the context of the Carlsbad RMP. Participants included diverse perspectives and interests from oil and gas; agriculture; recreation; local, state, and federal government; conservation and environment; religious leaders; and the local business community. The roundtables resulted in a report summarizing the perspectives of stakeholders to use during the subsequent period of public comment and associated deliberations on the RMP. (2018)

Gold Butte National Monument Conservation Partners Planning

Gold Butte National monument in southeast Nevada was established by presidential proclamation in 2016. The monument covers nearly 300,000 acres of remote and rugged desert landscape and is home to stunning rock art sites and other cultural resources as well as unique plants, wildlife, geology and motorized and non-motorized recreational opportunities. Key questions include how to manage and preserve the monument's resources for the future while enabling and improving the visitor experience. Keystone facilitated two meetings of conservation sector partners to identify common vision and priorities to recommend to the Bureau of Land Management as it develops a management plan for the monument. (2018)

Basalt Shooting Range Public Listening Sessions

In July 2018, the Lake Christine Fire originating at the Basalt State Wildlife Area Shooting Range destroyed three homes, burnt roughly 13,000 acres, and cost about \$17 million to fight. Colorado Parks and Wildlife engaged Keystone Policy Center to design and facilitate two public meetings to provide information, answer questions, listen to suggested solutions, and find common ground with Roaring Fork Valley residents concerned about the future of the Basalt State Wildlife Area Shooting Range. (2018)

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)

Colorado Climate Plan: Water Sector Public Engagement Session

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

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)

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 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)

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. Concerns that could arise from the project include the potential for endangerment to underground sources of drinking water, accidental release of CO2, injection-induced seismicity, and environmental justice concerns. (2012-2013)

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. (2012)

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)

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)

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)

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)

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)