



What's inside:

- Advice from the experts
- How to conduct community talks
- Suggested reading list

# PRESERVING

# NEVADA

Protecting  
Nevada's  
way of life

# Playbook



Spring Valley Wind Farm, near Ely, NV  
(C) Tammy Westergard 2019

Compiled by the Nevada State Library, Archives & Public Records

## Letter from the Nevada State Librarian

Welcome, we're glad you're here!

In January, the American Library Association established as a core value and program priority: *Libraries Fostering Resilient Communities*. In part, this calls librarians to curate 21st century, authoritative STEM collections and connect the resources to community programs. To that end, today's expert-led afternoon includes panelists from the Desert Research Institute (DRI); the Nevada Humanities; several groups from the University of Nevada, Reno: the School of Social Work, the English Department, the Jon Bilbao Basque Library and the @One Digital Media Library; AmeriCorps, Churchill County Museum and Archive and the Governor's Office of Economic Development. Private sector partners from Califa Group include Lifeliqe, an education publisher of the world's largest collection of 3D interactive STEM content, and XR Libraries a national leader and subject matter expert in deploying immersive 3D tools, content and educational programs in public libraries; and Energy Works, a public policy and advocacy firm based in Las Vegas, rounds out the panel.



**Tammy Westergard**  
Nevada State Librarian,  
Archives & Public Records

Community groups are also here to showcase environment-related work. For example, XR Libraries has a Stanford University virtual reality title called Stanford Ocean Experience (SOE). This simulation makes the impossible possible: seeing the ocean absorb carbon dioxide (CO<sub>2</sub>) molecules, a coral reef degrades, and marine life disappear as the ocean acidifies. DRI has Science Alive Green Boxes on display and UNR's @One Digital Media Library features a small sample of work in 3D digital preservation.

Accessible through a Nevada State Library channel, hosted by Lifeliqe, three Native American baskets from the UNR Anthropology Department and a Basque tree carving are viewable in interactive 3D. The effect of extreme weather has impacted the health of the willows and other natural materials used to make the baskets. The tree carving captures Euskara, Basque language, from a sheepherder in the late 1970s. (The purpose is to make Nevada treasures widely available in a way that provides protection from physical interaction, saving them for generations.)

Setting libraries at the center of discussions can start local conversations from a place of trust. Part of today's summit reflects community input from a summer listening tour of over 1,500 miles through most of rural northern Nevada. Input through the same process and listening with more folks is planned to start this spring throughout rural southern Nevada, and in northern and southern urban centers. Preserving Nevada's Environment Summit 2020 will be here before we know it and we hope again to align it with the Nevada Library Association's annual meeting. With tremendous appreciation for our panelists, community groups and the Nevada State Library team, thank you for being here. Happy Nevada Day (October 31)!

Best,

A handwritten signature in blue ink that reads "Tammy Westergard".

Tammy Westergard, MLS  
Nevada State Librarian

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*This playbook was compiled by staff at the Nevada State Library, Archives & Public Records. Thanks to Tammy Westergard and the summit panelists for Part I; Matt Erwin for adapting Part II; and Joy Holt, Hope Williams, and Kelly Robertson for their work on Part III.*



## Part I: Expert guidance

This section expands on the thoughts of the summit's panelists and their recommendations for future action. These leaders have demonstrated track records in creating community dialogue, thus enhancing the overall health of Nevada.

### **Kumud Acharya, interim president, Desert Research Institute**

Strand #3: Solutions to information needs

Congratulations to the Nevada State Library and the Nevada Library Association for convening this important conversation about sustainability and preserving Nevada's way of life. DRI is proud to be here today to share how we are partnering with libraries and schools across the state to help prepare a workforce adept in science, technology, engineering, and mathematics, commonly referred to as STEM.

Nevada's STEM professionals are critical to our workforce, especially in the clean energy sector. To respond to our changing climate, build resilient communities, and grow renewable industries Nevada's need to gain the knowledge and skills of tomorrow, collaborate across scientific disciplines, and shape the future of the human-technology interface in the workplace.

DRI recognizes our role in providing innovative and informative environmental education opportunities across the State and I am proud to share that our K-12 Science Alive Education program is leading the way in many areas – including robotics, water resources, and climate. We are proud to partner with the Nevada State Library to coordinate resources and programs that will support and grow Nevada's STEM workforce and environmental education programs. Our libraries and our librarians are trusted community builders and stewards of important community conversations about many topics, including, and especially related to our environment and the sustainability of our communities.

On behalf of all the faculty and staff at the Desert Research Institute, keep up the great work and have a wonderful, insightful discussion today. All the best to you and thank you!



**Kumud Acharya, PhD**  
Desert Research Institute



**Kumud Acharya** is interim president at the Desert Research Institute (DRI). He began his career at DRI in 2006 as an assistant research professor. He currently serves as Interim Vice President for Research. During his tenure, he has brought in over \$18 million in external research grants and contracts and has previously served as a senior director of DRI's former Center for Environmental Remediation and Monitoring, as deputy director for DHS, and as the chief technology advisor for Water Start. Prior to joining DRI, Dr. Acharya served five years combined as a postdoctoral and endowed research fellow at Arizona State University and the University of Louisville. He holds a PhD in biology and environmental sciences from Saitama University in Japan.

## Mark Andersen, co-founder and president, Lifeliqe

Strand #2: From the field

Nevada is a land of extraordinary natural beauty. I've been lucky to live in places of great beauty, yet Nevada has unique natural wonders I haven't seen anywhere else in the world: from the basin and ranges, to the high desert, to Lake Tahoe, to the colorful skies. And nowhere else in the world have I ever met a people who so love sage! The Nevada State Library is the first State Library in America to host an environmental summit of this kind. It's a privilege for me to participate in this important gathering as we discuss the most important issue of our age.

### *About our trip*

During our panel Tammy and I will be going into insights we learned from the 52 conversations we had with Nevadans across the Northern part of the State. Nevadans care deeply about preserving Nevada's environment. During our research road trip, we intentionally had conversations with Nevadans from all walks of life. We listened to farmers, ranchers, a county water resource manager, restaurant owners, bikers, bar keepers, teachers, librarians, and scientists. The fact that Nevadans are so passionate about their environment means every one of us can be confident in talking with others about ways to cooperate on actions we can take to preserve our environment—the person you talk to will likely care.

### *Words matter*

Even though Nevadans care about preserving the environment, words matter. From our Nevada advisors and from our 52 conversations we've learned there are positive words to use while there are other negative trigger words to avoid, since they make constructive conversations difficult. We'll cover these lessons learned during our panel. We often hear folks say that they feel preserving the environment is too big of an issue to solve by themselves. They're correct—it cannot be done by one person. But if we all start taking further actions to preserve our environment, we'll make tremendous progress. As the "Battle Born State", Nevadans have met every challenge through throughout their history. I know they'll successfully meet the challenge to preserve Nevada's environment while also offering other States a model they can productively use.



Mark Andersen



**Mark Andersen** is president and co-founder of Lifeliqe, an education platform used by students and patrons to learn in 3D. Its groundbreaking visual learning tool has over 1,300 interactive 3D models with augmented reality and 700 lesson plans that can be used for programming. Lifeliqe is the largest digital science library in the world where every model is co-created with a professor, scientist or zoologist. There's no place Mark would rather be than in the classroom. As a lifelong learner he is passionate about helping students learn. He believes it is a privilege to work with inspirational students and teachers every day. He has an MBA from Northwestern University.

Basque heritage is scattered all over Nevada. From boarding houses to Basque restaurants, from shepherd ovens to building murals. Preserving that heritage requires the involvement of memory institutions and communities, side by side, providing their expertise on collecting cultural artifacts of all kinds and the necessary connections to make those meaningful.

### *Focus*

Cultural communities, like the Basque community in Nevada, are a never-ending source of cultural expression. Due to their ephemeral character collecting those expressions is essential for preserving the memory of the Basque community. The production of oral histories that capture the experience on the Basque-Nevadans is an example of what Basque communities, along with libraries and museums, can do. Another example could be the preservation of Basque tree carvings, or *lertxunmarrak*, using 3D technology. This is an arena where academic institutions like the Jon Bilbao Basque Library and the @One Digital Media & Technology Center from the University of Nevada, Reno can support the effort made by experts in the field, and the members of the community (especially those familiar with shepherding) for collecting and preserving this fruit of the lonely life of shepherds.

### *What can we do?*

Actions should be focused on identifying tree carvings made by Basque shepherders in Nevada's aspen groves; on documenting the carvings capturing their location, taking pictures, and providing information about the history of shepherding in the area; on obtaining 3D scans of the trees that can be used for preserving the carvings.

### *Taking action*

The biological nature of trees implies that preserving tree carving becomes more urgent every day, the window of opportunity for preserving them narrows. Hundreds of aspens with carvings documented in the 1990s have already disappeared. The desired outcome will be the creation of one or more collections of 3D images of tree carvings to preserve these cultural expressions.



**Inaki Arrieta Baro**  
University Libraries



**Iñaki Arrieta Baro** is the head of the Jon Bilbao Basque Library at the University of Nevada, Reno, where he is focused on preserving and providing access to the documentary heritage of the Basque Diaspora in the United States, mainly through digital projects. Mr. Arrieta Baro has degrees from the University of Duesto and the Open University of Catalonia in Spain.

## Donna Cossette, member, Fallon Paiute-Shoshone Tribe

Strand #2: From the field

Donna was born on the Walker River Paiute Tribe and is of ½ Paiute descent she is an enrolled member of the Fallon Paiute Tribe and is Toi-Ticutta (Cattail Eaters) and Coup-Ticutta (Ground Squirrel Eaters) and Agui-Ticutta (Trout Eaters).

Donna has been with the Churchill County Museum and Archives for 15 years. Before this working for her Tribe for 15 ½ years, where she held a variety titles such as Cultural Liaison, Membership Services Director, Tribal Vice-Chairman, and Tribal Chairman. She currently is a member of the Oakland Museum Native American Council, Churchill County Cemetery Board. Donna also enjoys being a consultant and advising on her Northern Paiute history and traditional lifeways. Her claim to fame is being a guest cook on the Travel Channel, Bizarre Foods with Andrew Zimmern.

One of her lifelong passions is being one of her family's historian and sharing the life stories of her family. Some of her notable Great Basin ancestors are Captain Truckee, Wahe (brother to Chief Winnemucca), and Captain Dave (one of Nevada's first Indian Police), Joaquin Brown (Tracker), Mary Dave (Traditional healer/Doctor), Bowen Dave (Lovelock Tribal Chairman) and Donald Brown Sr. (Fallon Tribal Chairman)

"There should be nothing more important than protecting the health of the air, land and water for all that benefits today and all that is yet created."



**Donna Cossette**  
Paiute-Shoshone Tribe



**Donna Cossette** is a member of the Fallon Paiute Tribe. For 15 years, she has been with the Churchill County Museum and Archives. Previously, she worked for her tribe, where she held a variety titles such as cultural liaison, membership services director, and tribal chairman. She currently is a member of the Oakland Museum Native American Council, Churchill County Cemetery Board. Ms. Cossette also enjoys being a consultant and advising others on Northern Paiute history and traditional lifeways. Her claim to fame is being a guest cook on the Travel Channel's *Bizarre Foods with Andrew Zimmern!*

## Karsten Heise, director of strategic programs, Governor's Office of Economic Development

Strand #5: The new economy

### *Here and now*

Nevada is subjected to inescapable impacts of Global Megatrends. Among those are an accelerated pace of technological change, urbanization including migration patterns, demographics, and changing globalization patterns.

To stay at the forefront Nevada must develop an understanding of those Megatrends and develop far reaching responses.

For this Strand #5, the focus would be to understand the main factors that drive accelerated technological change that form the Fourth Industrial Revolution. Accelerated technology change of the Fourth Industrial Revolution is not an exogenous force. Society will need to shape and guide its evolution.

### *Major ideas*

Nevada ranks among the top five states predicted to be most affected by technological changes such as automation. Priority should be given to develop responses with a focus on how to create a highly skilled and technology-change-resilient workforce. Individuals need to embrace change with the willingness for lifelong learning with a focus on STE(H)M, while individual employers would need to facilitate re- and upskilling by providing employees with required time for training as well as financial support. Educational institutions would need to increasingly develop shorter term but stackable credentials and adapt their instruction delivery modes by including e-learning, open-entry-open-exit, project-based learning etc.

### *Opportunity knocks*

Opportunities exist to form Public Private Partnerships (PPP) to initiate workforce development initiatives especially focusing on lifelong learning, work-based learning, career pathway frameworks, and attract students to STEM careers from an early age.

To foster environmental sustainability by embracing opportunities which new advanced technologies offer, including inter alia new materials as well as technologies and processes that make assets more durable and resilient, development of less resource-intensive supply chains, leverage supplier and consumer engagement enabled through Industry 4.0, which also includes applying advanced analytics to better understand consumer behavior leading to reduction in resource intensity.



**Karsten Heise**  
GOED

Nevada Governor's Office of  
ECONOMIC DEVELOPMENT

**Karsten Heise** is director of strategic programs at Governor's Office of Economic Development (GOED) and an ex-officio member of the State Council on Libraries and Literacy. He has abundant experience in creating strategic initiatives and their implementation: establishing vision and thought leadership; identifying new opportunities and markets; structuring strategic programs including their subsequent execution and is a global executive and multilingual (fluency in German and daily working proficiency in Mandarin). Mr. Heise is accustomed to has deep curiosity for diverse cultures and as such his high aptitude for bridging cultural differences in business conduct offers high cross-cultural competence. He has an MPhil from the University of Cambridge.

Every citizen has a responsibility to take part in protecting our environment. There are a wide variety of areas and issues that require our immediate attention. Our climate is changing, and we must pay attention to our land, water and air. We must also make choices that allow us to embrace clean energy, energy efficiency and innovative transportation technologies.

The most important step we can take as a society is to pay attention and become involved! This requires us to be open to responding to outreach requests from trusted leaders and organizations focused on issues of interest to you. There is an enormous opportunity to engage, act and modify the behaviors that have led to significant damage to our environment. Education and participation are key ingredients to preparing for action. Whether we engage in community action or legislative and regulatory proceedings, we must do so in an informed way. The goal is to maintain our quality of life while focusing on the need to protect our precious environment. When we take the time to educate, engage, and collaborate, we are empowered to act.

If you believe as I do that leveraging libraries to advance sustainability and environmental stewardship is a real opportunity, follow these 5 easy steps:

- Allocate an hour to educate yourself and enhance your environmental IQ repeat as necessary over the time needed for you to feel comfortable with the topic. Keep track of your questions and be prepared to seek answers. Write down your top 5 ideas and work to prioritize.
- Identify an opportunity to engage in your community. Convene a group of friends, neighbors or family over coffee or a meal to discuss opportunities to make a difference.
- Find existing community or governmental resources to assist you in your research to guide your planning
- Develop a personal bibliography of books, articles and posts to support your position and share with your network.
- Be prepared to engage and participate when and where you are comfortable, write letters, make calls, participate in organized efforts, initiate your own movement.



**Rose McKinney-James**  
McKinney-James & Associates  
Energy Works, LLC



**Rose McKinney-James** is the managing principal of Energy Works LLC and McKinney-James & Associates. Prior to establishing her own firm, she served as a commissioner with the Nevada Public Service Commission and director of the Nevada Department of Business and Industry. After leaving government service, she entered the private sector as president of Brown & Partners, resident of Government Affairs for Faiss Foley Merica, and president-CEO of the Corporation for Solar Technology and Renewable Resources (CSTRR). In her current capacity, she provides consulting and strategic planning guidance to businesses engaged in energy intensive endeavors. A registered lobbyist with the Nevada Legislature, she currently represents a range of public and private entities with interests in regulatory and energy policy. Ms. McKinney-James served as a member of the Obama-Biden Transition Team with responsibility for the US Department of Energy and the Team Lead for the Federal Energy Regulatory Commission (FERC). She served as a Nevada elector for the 2012 Presidential Electoral College. Ms. McKinney-James has a degree from the Antioch School of Law in Washington, DC.

### *Here and now*

Listen actively. Repeat back to the person what you've heard them say in terms they will accept, starting with, "If I've heard you right, you think/believe...." Ask follow-up questions like "What experiences led you to think/believe that?" See the Angry Uncle Bot on the New York Times website for other questions you can ask to draw out the person's reasoning. Then, as you listen to their reasons, listen for the values that underlie them. For example, if someone says, "Well, I just think that environmentalists don't understand us because they were out here pushing for a geothermal plant that would have been an eyesore and scared our cows..." You hear "eyesore" and "scared our cows," and the following values pop out at you: "We value the beauty of our surrounding environment" and "We value the wellbeing of our livestock." These are beliefs that you might share, and they might provide common ground from which to move toward a compromise, as in: "I hear what you're saying. If a green energy development didn't ruin your beautiful view at your ranch, and if it didn't have any negative effects on your livestock, would you support it, do you think?"

### *Major ideas*

Focus on listening rather than talking, especially if the situation seems dire or upsetting. It might seem counter-intuitive in those situations, but listening is a more effective form of persuasion than talking when it is done actively and with a genuine desire to respect and learn from the person you're talking to.

Focus on trying to learn why the person you're talking to believes what they believe. Focus on listening for the values underlying their statements: many of these are usually things you share, like the desire to protect family, or a traditional way of life, or a fear of not having enough money to live on.

### *Opportunity knocks*

The opportunity arises any time you encounter a disagreement. That's an invitation to learn something you didn't know about the world by listening. The desired outcome is building community. Whether or not you persuade someone, if you can let them know you share common values, you're letting them know that you consider yourself a part of their community.



Lynda Olman, PhD  
University of Nevada, Reno  
College of Liberal Arts



**Lynda Olman** is a professor of English at the University of Nevada, Reno. Her primary field is the rhetoric of science, particularly the public reception of visual STEM arguments and of the ethos or public role of the scientist. Her current project seeks a structural vocabulary for scientific graphics in order to help non-experts better interpret them. Dr. Olman also has published studies in environmental and non-Western rhetoric; these are joined to her main body of work through an unswerving commitment to archival data, inductive methods and interpretation of results in terms of local politics. She has a PhD in English from the University of Texas at Austin.

**Nancy Cummings-Schmidt, Board member, Nevada Humanities; Chairwoman, State Council on Libraries and Literacy and Retired Director, Washoe County Library System**

Opening keynote:

*From the heart*

About five years ago, the widely recognized STEM acronym standing for science, technology, engineering and math, became STEAM. The “A” stands for art. Art in all its forms has the ability to increase awareness, educate and create emotional connections. An example of environmental science art is the photo series produced from Professor Willett’s AmeriCorps students who last year through photovoice captured the damaging impacts of extreme weather throughout the Truckee Meadows. This has helped influence and guide action and solutions.

*Keeping in mind*

At one time or another Nevada communities have all faced and will continue to face the challenges of strife – whether human-created, natural or some combination. Our Nevada libraries’ core values and resources are aligned with their communities to support endurance, to rebound from strife, and to foster healthy growth and new life.

The Nevada Humanities connects and transforms communities by sharing and amplifying the stories, ideas, experiences, and traditions of the diverse people of Nevada. Envisioning a Nevada where people thrive in just and healthy communities, where connection and participation are part of everyday life, and where diverse perspectives are welcomed and valued. Nevada libraries embody Nevada humanities.

*Opportunity knocks*

In 2013, the Rockefeller Foundation began working with thirty-two cities as the first cohort of a 100 Resilient Cities Initiative. According to the Foundation, resilience is “the capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience.”

Nevadans are battle born - inherently independent and resilient. Our libraries are well suited to encourage individuals to make decisions that help prepare for and prevent the impact of disasters. Librarians offer programs and services that allow individuals to respond to issues as they arise. Libraries are the quintessential informal and lifelong learning institutions in this state, and because libraries are pillars of this lifelong learning, they are perfectly poised to take a leadership role in building resilient communities.



**Nancy Cummings-Schmidt**  
Nevada Humanities



**Nancy Cummings-Schmidt** is the retired director of the Washoe County Library System, having served from 1995-2008. Prior to that, she was the Director of the Yuma County Library District in Yuma, Arizona. She began her library career at the Clark County Library in Las Vegas where she held several positions including bookmobile librarian, Young People’s Services Coordinator and Flaming Library Administrator. She is a UNLV graduate and received her MLS from San Jose State where she was one of the 40 honorees during their “40 for 40” Accreditation Celebration. Nancy currently serves on the Nevada Humanities Board, the Girl Scout Board of Northern Nevada and is a member of the Nevada Center for the Book Advisory Committee. She has been chairperson of the State Council on Libraries and Literacy since 2017. As a fourth generation Nevadan, Nancy was the first woman from Nevada to join the Peace Corps. She holds a lifetime honorary membership in NLA.

### *Building a pipeline*

The United States government and industry leaders are acknowledging a “STEM pipeline problem.” There is an aging technical workforce, an increasing number of STEM related-related jobs, and a lack of qualified people to fill them. This is true for technicians to PhD-level positions. The education literature talks about building scaffolding for learning through time. That is, concepts need to be presented many times, as a child moves through elementary, middle, high school and beyond. Supporting informal education to build a scaffolding for learning through space, i.e. across daily life, in and out of the classroom, is my call to action.

Over two decades of teaching and supervising college and graduate-level science students, I have observed that the best scientists and learners:

- Understand the big picture
- Create
- Problem solve
- Know what they don't know

None of these traits come from being “a science kid” or having early access to computers. These can't be learned during a single activity, camp, or class. However, they are also difficult to quantify and measure so that no child gets left behind.

### *Keep thinking*

Public libraries are the ideal place for informal STEAM education to occur. That said, it's important that we continue to think of ways to expand STEAM programing accessible to the diverse families of Nevada.



**Rina Schumer, PhD**  
Desert Research Institute



**Rina Schumer** is assistant vice president of academic and faculty affairs at DRI. Her primary research interests involve stochastic models for environmental processes. She uses mathematical models to enhance understanding of subsurface transport in porous and fractured media, surface-subsurface exchange, sediment transport, as well as geomorphic processes and their signature in the geologic record. Using her background in applied mathematics, she also has projects that employ optimization techniques, time series analysis, extreme value theory, and probability and statistics. Dr. Schumer has a PhD from the University of Nevada, Reno.

## Tammy Westergard, administrator, Nevada State Library, Archives & Public Records

Strand #2: From the field

### *The power of now*

Public library spaces throughout Nevada are open after hours and on weekends. Combined, 22 municipal library systems operate 88 facilities or branches. All Nevada public libraries have Internet access, most high-speed, technology and community meeting spaces. Nearly 45% of over 3 million Nevadans have active library cards. Nevada library patrons represent the full spectrum of the community, including underserved populations. With ability to showcase STEM learning resources and programs, library professionals can share in the overall responsibility of raising Nevadans' awareness about issues related to preserving Nevada's environment and keeping it in balance for Nevadans.

### *Keep it in mind*

The American Library Association (ALA) adopted the strategic direction of sustainability and in doing so, made a commitment to the "triple bottom line" framework for sustainability recommended by the ALA Special Task Force on Sustainability. This tripod consists of practices that are environmentally sound, economically feasible and socially equitable. In adopting sustainable as a core value of librarianship, ALA recognizes the findings in the latest report of the United National Intergovernmental Panel on Climate Change. The report, written and edited by 91 scientists from 40 countries who analyzed more than 6,000 scientific studies in October 2018, found that the immediate consequences of climate change are far more dire than originally predicted. They called for a transformation of the world economy at a speed and scale that has "no documented historic precedent."

### *Opportunity knocks*

Community groups can host programs in Nevada public libraries to showcase DRI's green boxes and other Science Alive curriculum and gather local feedback. Community groups can use the Nevada XR Libraries pilot partners to provide access to augmented and virtual reality STEM content to amplify understanding of science, technology, engineering and mathematics.



**Tammy Westergard**  
Nevada State Library,  
Archives & Public Records



**Tammy Westergard** is deputy State Librarian at the Nevada State Library, Archives and Public Records (NSLAPR). Her great passion is advancing educational opportunities through the library. She helped spearhead statewide initiatives in workforce development, extended reality, and library development. Prior to coming to NSLAPR, she was the library district director for a 15-branch system in southern Oregon, and both the deputy director and interim director at the Carson City Library. Ms. Westergard holds an MLS from the University of North Texas and was recognized as an "agent of change" among a national list of 2016 Movers & Shakers profiled in *Library Journal*.

*Discover what is clear and what is not*

Nevada is filled with environmental injustices, but these problems are different than the rest of the country. We have “invisible” problems like climate change, water wars and Yucca Mountain. We also have different types of vulnerable populations in each of our local communities. We are going to have to figure out what our local environmental injustices are before we can work on them.

In your community, define who the vulnerable groups are. You can do this by looking at demographics and talking with people. Remember that they may be hidden. Think creatively to include these hidden voices. Understand their concerns; they live in their local environment and they will be able to tell you what is impacting them, which is often different from what national and local leaders assume. After understanding what is going on, build a broad coalition with their voices in leadership roles. This will help address the structural issues related to environmental injustice through giving them a voice.

*Justice for all*

While the environment affects all Nevadans, we are not equally impacted. Marginalized populations that are already facing other structural problems like racism and poverty are disproportionately affected by environmental degradation. Therefore, the most significant issue related to the environment is the issue of justice. In any actions to address environmental problems, these interconnected structural issues must be considered, or the actions are likely not to improve local community members’ lives.

*Community focus*

Opportunities for action will look different for each community. Experts can help guide actions through their knowledge of systems and resources. However, remember to keep the voices of the most impacted front and center in all actions. This will lead to greater justice and more solutions that are helpful for the community, rather than solutions that seem like a good idea but do not address community needs.

You can see this process in our project that is funded by AmeriCorps. AmeriCorps could have easily defined their own projects in Northern Nevada. However, they gave the opportunity to the youth to determine community needs, a research process that was guided by an "expert" (me, the professor). Now, AmeriCorps is attempting to build projects around these identified needs in partnership with the youth. The youth feel empowered and learned a lot of skills, and AmeriCorps is working on community problems that desperately need solutions. Community-driven processes like this can be time consuming and challenging, but they lead to win-wins.



**Jennifer Willett, PhD**  
University of Nevada, Reno  
College of Social Work



**Jennifer Willett** is an assistant professor of social work at the University of Nevada, Reno. She is currently collaborating with Dr. Mary Hylton and local community members to document slow violence and environmental injustice in Nevada through community-based research. The core of their research team are local high school students that are trained as youth scientists and use the photovoice method to photograph environmental problems, hold community discussions, and initiate actions. This work is supported by the Corporation for National and Community Service. Dr. Willett’s research interests also include responses to environmental degradation in marginalized communities and community-based research methodologies. She holds a PhD in social work from the University of Connecticut.

## Part II: Convening a conversation in your community

Starting a conversation about environmental issues can be the hardest part. We've put together a sample workshop designed to facilitate listening, understanding, and sharing. Using the SOAR model, you will emphasize the positive actions being taken in your community and how you can build on these successes to raise greater awareness and insight. What's more, it is effective and easy-to-use (*Action Guide 20*).

### What is SOAR?

Adapted from the Aspen Institute's *Action Guide for Re-Envision Your Public Library, Version 2.0*, SOAR stands for: Strengths, Opportunities, Aspirations, and Results. It "uses a strengths-based strategy for community development [and] is most effective if used in a process of collaborative inquiry" (4). By focusing on a community's strengths instead of its weaknesses, facilitators can better bridge any ideological divides that may exist by declining to "blame or shame". By using SOAR, you will encourage collaboration, understanding, sharing collective wisdom, representation, wider perspective, commitment, and a desire to do more.

### Effective facilitator guidelines

It is the responsibility to the facilitator or moderator to ensure that the SOAR process leads to greater understanding and an equitable dialogue among participants. Below are some guidelines that we believe will help shepherd your conversation in a positive direction. See the Appendix for a recorder form that may help you keep track of your conversation.

#### Responsibilities

- Welcome all participants
- Encourage everyone to participate
- Ensure balanced participation
- Remain neutral on the content of the discussion
- Practice active listening
- Encourage the expression of different points of view
- Help participants to understand each other and their different perspectives
- Summarize periodically
- Record key points
- Manage time
- Provide concluding remarks
- Thank participants

#### Suggestions

Set of ground rules or guidelines for the group to follow. When the discussion time is short, it can be especially helpful for the facilitator to present a set of proposed rules or guidelines for the group to consider. Usually the question, "Will everyone commit to following these rules?" elicits general agreement from participants.

#### SOAR is best defined in this way:

**Strengths:** What does the library do very well now? What works? What are your assets and capabilities? What are your greatest strengths?

**Opportunities:** Where in the current context are there opportunities for the library to make a difference, to contribute, to innovate? What are your best opportunities?

**Aspirations:** What are your hopes and dreams for the future? What do you want to be known for? What is your preferred future?

**Results:** What do you most want to accomplish? What will success look like?

Image courtesy of The Aspen Institute

The following is an example of guidelines you might implement:

- Take turns to speak and to listen
- Listen to understand
- Expect and respect differences
- Suspend judgment about the ideas and opinions expressed
- Be authentic; say what you mean.
- Think before you speak
- Be clear and succinct in the expression of your ideas

### Ground rules

Laying down fair and effective ground rules will be key to ensuring a successful SOAR session. Remember: the purpose of dialogue is to understand and learn from one another. Be sure that all participants know:

- You cannot “win” a dialogue.
- All dialogue participants speak for themselves, not as representatives of groups or special interests. Avoid “we” statements.
- Treat everyone in a dialogue as an equal: leave role, status, and stereotypes out of the dialogue.
- Be open and listen to others even when you disagree. Try not to judge.
- Search for assumptions (especially your own!) and address them constructively. Name your own hopes, fears, and prejudices.
- Always look for common ground. We can always agree on something.
- Keep dialogue and decision-making separate.
- Remember: dialogue always comes first.

### Questions to ask

Framing your questions in an open-ended, non-judgmental way will be key to facilitating SOAR. Below are a few questions that may be useful as you begin to play your community conversation. Of course, adapt all questions to better reflect the realities of your community. The amount of time you spend on each question will vary, so be prepared to allow participants to talk and discuss, but also guide the conversation in a way that enables a multiplicity of topics to be touched on.



#### *STRENGTHS: Building on success*

1. What is Nevada doing well in preserving its environment?
2. What makes our community’s people and environment unique?
3. What key natural resources give our community an advantage in a 21<sup>st</sup> century economy, where things like resources scarcity may become the norm?

#### *OPPORTUNITIES: Future opportunities*

1. What changes do you expect to see over the next five years, in the community and in the state?
2. How is Nevada’s environment suited to take advantage of a technological revolution. For instance, automation or renewable energy?
3. Which future changes could have a positive environmental impact on our state?
4. Where can Nevadans make a difference in combating extreme weather or resource scarcity?
5. What are key economic areas of untapped potential for Nevada?

### *ASPIRATIONS: Changing for the better*

1. What kind of communities do we want?
2. What are the most important attributes or essential components of Nevada's disparate communities?
3. If you could wave a magic wand and transform your community, what change would you most want to see and why?
4. Thinking globally: as you reflect on the environmental changes happening in the world today, describe one area that gives you hope. How might our communities respond to this one big hope?

### *RESULTS: Measuring success*

1. Considering our strengths, opportunities, and aspirations, how will we know we are on track in achieving our goal of preserving Nevada's environmental resources and heritage?
2. What measurable results does our community want to see and be known for in 10, 20, or 50 years?

It is important that you, the facilitator, take notes and summarize your SOAR findings that the conclusion of your session. Think: What rose to the top in your group discussion? Using this as a starting point, share the top two or three "aha!" moments, concepts, ideas, or insights that emerged from your group discussion for further discussion and deliberation. In fact, these "aha!" moments will help your re-start the conversation at a future SOAR session and also understand what really matters to your community.

### **Next steps**

What now? There are lots of ways that you can turn the insights gleaned from your SOAR conversation into action.

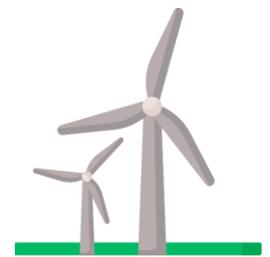
*Engage and contribute:* You can't contribute, support, or be aware of your community's environmental issues if you don't proactively engage your community. Make plans to meet community leaders and citizens to get a feel for their expectations and needs. Of course, be prepared going into these meetings. Look over relevant documents and think about previous discussions with your community.

Review notes from previous meetings. Go to the meeting ready to listen, contribute, take notes, and follow up.

*Monitor and review:* As a community facilitator, you are the eyes and ears of what's happening in your community or state. Learn about the services available in your community. Be a participant. Advocate for environmental education. Observe and talk to others. These actions will make you a strong, trusted community member.

*Plan and evaluate:* Each year, goals and objectives may change. Get to know the strong and weak points of the services in your community and brainstorm ways to make them better. Be aware of city, county, and state laws governing environmental use. Know federal legislation and issues. Preempt how reevaluating goals can impact your community and how shifting your objectives may help Nevada advocates enhance their effectiveness. See Appendix for a short survey idea to deploy at the end of your conversation session.

*Advocate and communicate:* One of your primary goals should be to act as an advocate for preserving your community's environmental heritage, as well as that of the wider state. Talk to those who are responsible for funding environmental or educational programs. Make your friends, neighbors, and associates aware of the community's needs. Tell them about the achievements made. Ask community members to help solve problems. Look for opportunities to promote good public relations. Open the lines of communication within



your community and with nearby districts and statewide programs. Be an advocate for all environmental issues, big or small.

*Support and encourage:* Being a facilitator and advocate can be stressful. Try to understand the problems your peers and other advocates or professionals face. If you have criticism, be constructive and honest, but diplomatic. If something is going well, say so. Above all, be positive and let community members know they are valued members of the Nevada citizenry. Remember: Success follows success.

*Part II is adapted from the Aspen Institute's Action Guide for Re-Envision Your Public Library, Version 2.0.*

## Part III: Read to lead, an annotated bibliography

This is a list of suggested readings from our panelists. It is not intended to be comprehensive. On the contrary, this is merely a snapshot of the available literature on these topics, many of which (\*) are available at the Nevada State Library or can be borrowed via inter-library loan.

### Climate change

- \*Brannen, P. (2017). *The ends of the world: Volcanic apocalypses, lethal oceans, and our quest to understand earth's past mass extinctions*. New York, NY: HarperCollins Publishing.



As new research suggests that climate change was pivotal to the most significant catastrophes in our planet's history, this book details the five mass extinctions that Earth has endured through the study of paleontology and geology. By pointing out the similarities of each extinction, this work paints a vivid picture of how climate change is not new and is life threatening.

- \*Dettinger, M., & University of Nevada Cooperative Extension. (2017). *Climate scenarios for the Truckee-Carson river system* (Special publication, 17-05). Reno, Nevada: University of Nevada Cooperative Extension. Retrieved from <https://www.unce.unr.edu/publications/files/nr/2017/sp1705.pdf>

This fact sheet provides background information on how, Water for the Seasons climate scenarios are constructed. Information on the hydrologic modeling process, study results and analyses of individual climate scenarios will be explored in subsequent publications and technical reports.

- \*Dutcher, P. (2015). *Burdens and benefits of climate change solutions: A case study of climate change skeptics and deniers in rural Nevada* (Unpublished doctoral dissertation). Environmental Science, University of Nevada, Las Vegas. Retrieved from <http://digitalscholarship.unlv.edu/cgi/viewcontent.cgi?article=3348&context=thesesdissertations>

This dissertation is an ethnographic case study of climate change doubters and dismissers with the purpose of understanding their perceptions of water use and renewable energy in the context of a changing climate. Twenty-five Churchill county residents were interviewed about their attitudes towards climate change. An investigation into the information sources and messages they use to understand climate change and climate change solutions was also conducted.

- \*Fillmore, H.M. (2019) *Assessing climate data and information needs to enhance the resiliency of water resources on reservation lands in the southwestern United States*. (Unpublished doctoral dissertation). Department of Hydrology, University of Nevada, Reno. Retrieved from <http://hdl.handle.net/11714/5719>

Indigenous communities are among some of the most vulnerable to climate change impacts, particularly with regards to their water resources. Planning effectively to remain resilient within existing socio-cultural, political, and economic constraints requires an assessment of the climate data and information needs most pressing in Indigenous communities. This study seeks to support such

integration using a participatory research design that assesses data and information needs critical to enhancing climate adaptation on reservation lands in the Southwestern and Great Basin regions. It includes a discussion on ethical collaboration when conducting such research, with special attention to protecting the data sovereignty of Indigenous communities when sharing research information with the general public.

\*Green, C., Giles, J., McKinney-James, R., Pinnix-Ragland, H., & Toliver, T. (2019). *The energy within us: An illuminating perspective from five trailblazers*. Grosse Pointe Farms: Two Sisters Writing and Publishing.

Five African American female executives share their experiences transcending to corporate leadership positions passing through the glass and black ceiling in the historically white male energy industry.

Gore, A. (2006). *An inconvenient truth*. Emmaus, PA: Rodale.

Bringing together scientific research from experts around the world, this work depicts the very real issue of global warming and the detrimental consequences to our planet, should we continue to ignore its reality.

\*Kane K., Debinski D.M., Anderson C., Scasta J.D., Engle D.M., Miller J.R. *Using regional climate projections to guide grassland community restoration in the face of climate change*. *Frontiers in Plant Science* 2017; 8:730. Published 2017 May 9. doi:10.3389/fpls.2017.00730. Retrieved from <https://www.frontiersin.org/articles/10.3389/fpls.2017.00730/full>

Because grassland loss has been extensive worldwide, ecologists have developed approaches to restore grassland communities and many have been successful. However, climate change adds a new filter needed in planning grassland restoration efforts. Results demonstrate that many common species. Thus, grassland restoration alternatives should be evaluated based upon the long-term viability in the context of climate change projections and risk of plant species loss.

\*Kolbert, E. (2014). *The sixth extinction. An unnatural history*. New York, NY: Henry Holt and Company, LLC.

Planet earth has endured five mass extinctions over the last half-billion years and scientists are currently predicting a sixth extinction; triggered by alterations inflicted on the planet from human beings. Drawing on the work of renowned scientists from a variety of disciplines, this book points out disappearances that are already happening, we just haven't noticed.

\*Lee, K. (2018). *AI superpowers. China, Silicon Valley and the new world order*. Boston, MA: Houghton Mifflin Harcourt.

China is catching up to the United States and becoming a technology powerhouse. As Artificial Intelligence continues to expand and develop, jobs will be affected. This book discusses what jobs will become obsolete and how both China and the United States must face the responsibility of having such technological power.

\*Lovelock, J. (2019). *Novacene. The coming age of hyperintelligence*. London, England: Penguin Books Ltd.

This book suggests that the current geological age, known as the Anthropocene and acknowledged as a period in which human activity has been the dominant influence on climate and the environment; is coming to an end. Thus, a new age, the Novacene, is dawning; and will produce artificial intelligence that will think 10,000 times faster than we do.

\*Mann, M.E., & Toles, T. (2018). *The madhouse effect. How climate change denial is threatening our planet, destroying our politics, and driving us crazy*. New York: Columbia University Press.

Award-winning climate scientist Mann and Pulitzer Prize winning political cartoonist Toles enliven the gloom and doom of climate change discussion while helping readers address fallacies of naysayers and restore sanity to the debate.

\*Rees, M. (2018). *On the future. Prospects for humanity*. Princeton, NJ: Princeton University Press.

Based on the premise that the future of humanity is hinged on science, this work posits we turn our focus to the development of biotechnology, cyberotechnology, robotics and artificial intelligence to help us overcome any number of threats, from climate change to nuclear war.

\*Sterle, K.M. (2018) *Collaborative modeling to assess climate adaptation and science information needs in snow-fed river systems* (Unpublished doctoral dissertation). Department of Hydrology, University of Nevada, Reno. Retrieved from <http://hdl.handle.net/11714/3353>

Snow-fed river systems are sensitive to climate change. As climate change alters seasonal snowpack dynamics with warmer temperatures, water management based on historical and stationary climate patterns is further challenged under a warmer climate. This work illustrates how collaborative modeling involving local stakeholders and researchers generates information needed for local climate adaptation.

Travis, C. & Holm, P. (2017). *The new human condition and climate change: Humanities and social science perceptions of threat*. *Global and Planetary Change*. 156, 112-114. doi: 10.1016/j.gloplacha.2017.08.013

Defining the “Human Condition” using philosopher Hannah Arendt’s idea of the Polis, this article examines the role of human involvement in climate change and how we can modify perceptions of environmental change and action in order to save our species. By involving Humanities and Social Science scholars in the global conversation we can better address the “human problem.”

## Education



\*Aoun, J.E. (2017). *Robot-proof. Higher education in the age of artificial intelligence*. Cambridge, MA: MIT Press.

Addressing the issue of how higher education can prepare students for the workforces when professions are disappearing, this book proposes a way to educate learners to invent and create to meet the needs of society in a way that artificial intelligence cannot. As new literacies such as data literacy emerge, students will need to understand how machines work and comprehend the flow of data.

\*Bhakta, S. (2019). *TECHNOchicas & the future: girls in STEM and technology*. Techniques: Connecting Education & Careers, 94(3), 38–43. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=asm&AN=134839868&site=ehost-live>

The article discusses the role of girls in science, technology, engineering, and mathematics (STEM) fields in relation to career and technical education (CTE). Topics include a grant to the Las Vegas, Nevada Clark County School District (CCSD), the role of peer education in computer science education for girls, and the program TECHNOchicas for Latina students.

\*Hilts, A., Part, R., & Bernacki, M. L. (2018). *The roles of social influences on student competence, relatedness, achievement, and retention in STEM*. Science Education, 102(4), 744–770. doi: <https://doi.org/10.1002/sce.21449>

Students' perceptions of competence and relatedness are known to influence learning processes and achievement, and may have particular import for underrepresented science, technology, engineering and mathematics (STEM) learners. Sources of social support that contribute to undergraduate life science learners' perceived competence and relatedness were examined, as were achievement and retention outcomes influenced by these sources of support and self-determination theory components.

\*Lekkas E., Andreadakis E., Nomikou P., Antoniou V., Kapourani E., Papaspyropoulos K. *Environmental, disaster and crisis management strategies; interdisciplinarity and synergy in postgraduate studies*. Geophysical Research Abstracts. 2017;19:@Abstract EGU2017-6915. <http://search.ebscohost.com/login.aspx?direct=true&db=geh&AN=2018-048310&site=ehost-live>. Accessed October 18, 2019.

Environmental issues, disasters and crises show an increasing complexity and interconnections in every level and aspect, thus requiring a holistic approach from simple problem solving to emergency management. One of the issues concerning the traditional emergency management is competition or even antagonism between organizations, services and disciplines, from science to operations. Outlining a postgraduate program designed in Greece, this work offers a curriculum of lessons and disciplines integrating science, humanities, legislation, institutions and operations as they relate to emergency management.

\*Thompson C.K., Kinzel M, Schnetzer A. *Teaching the importance of ocean sustainability using active learning techniques*. Abstracts with Programs, Geological Society of America. 2017;49(6):@Abstract no. 204-9.

<http://search.ebscohost.com/login.aspx?direct=true&db=geh&AN=2018-035340&site=ehost-live>. Accessed October 18, 2019.

The Interdisciplinary Teaching about Earth for a Sustainable Future Program (InTeGrate) addresses this goal by bringing together multidisciplinary, multi-institutional teams to develop Earth Science teaching materials for undergraduate classrooms. This article demonstrates one activity from InTeGrate's Ocean Sustainability module. Retrieved from <https://serc.carleton.edu/165003>

\*Walkington, C., & Bernacki, M. L. (2018). *Personalization of instruction: Design dimensions and implications for cognition*. *Journal of Experimental Education*, 86(1), 50–68. doi: <https://doi.org/10.1080/00220973.2017.1380590>

Instruction can be made relevant to students when it draws upon and utilizes their interests, experiences, and “funds of knowledge” in productive ways to support classroom learning. This approach has been referred to as “context personalization.” This Paper discusses the cognitive basis of personalization interventions, theories related to grounding via concrete experience, activation of funds of knowledge, and cognitive load.

## Fire management

\*Clifford, M., Etyemezian, V., Chen, L., Nikolich, G., & Nevada System of Higher Education. *Desert Research Institute*. (2018). *Synthesis of post-fire monitoring activities in the Great Basin Desert, Mojave Desert, and transition zones* (Publication, no. 45282). Nevada: Desert Research Institute. Retrieved from <https://www.osti.gov/servlets/purl/1480331>



American southwest deserts traditionally had fire return intervals of centuries to millennia. Now they are now having fire return intervals of decades. This increased burn frequency has implications for post-closure management and long-term stewardship on the Nevada National Security Site, Tonopah Test Range and the Nevada Test and Training Range. A series of studies were initiated to better understand the possible effects of wildfire on erosion and sediment transport by wind and water should vegetation at contaminated sites burn. Each site was representative of one of the three ecoregions found on the Nevada National Security Site. Results suggest that contaminated soils that experienced wildfire had the potential for soil erosion and transport of contaminated soils.

\*Smith, E., Sistare, S., Nejedlo, G., University of Nevada Cooperative Extension, & Nevada State Publications Repository. (2011). *Fire adapted communities: The next step in wildfire preparedness* (Sp, 11-01). Reno, Nev.: University of Nevada Cooperative Extension. Retrieved from <http://epubs.nsla.nv.gov/statepubs/epubs/31428003040884.pdf>

This publication outlines steps that can be taken to protect homes and communities from wildfires including creating defensible space, using fire-resistant building materials, creating access points for emergency vehicles, developing a range of fire and fuel breaks.

\*United States. Bonneville Power Administration. (2019). *Post-fire cheatgrass control using aerial spraying: Wilson/101 ranch: Environmental assessment*. Portland, Oregon: U.S. Department of Energy - Bonneville Power Administration. Retrieved from

[https://www.bpa.gov/efw/Analysis/NEPADocuments/nepa/Cheatgrass/Cheatgrass\\_EA%203D\\_DEA\\_Draft%20EA.pdf](https://www.bpa.gov/efw/Analysis/NEPADocuments/nepa/Cheatgrass/Cheatgrass_EA%203D_DEA_Draft%20EA.pdf)

Reports on the results of controlling cheatgrass through crop dusting methods. Controlling cheatgrass and other invasive plants reduces wildfire risk and the intensity of fires when they do occur.

## Rangelands

\*Abella, S. R., Guida, R. J., Roberts, C. L., Norman, C. M., Holland, J. S. (2019). *Persistence and turnover in desert plant communities during a 37-yr period of land use and climate change*. Ecological Monographs 1-21. Retrieved from <http://dx.doi.org/10.1002/ecm.1390>



Understanding long term changes in ecological communities during global change is a priority for 21st century ecology. To evaluate six hypotheses of community change, perennial plant communities were measured at 100 sites three times within a 500-km<sup>2</sup> landscape in the Mojave Desert, USA over 37 years.

\*Briske, D.D. (2019, October 15). *Rangeland systems: processes, management and challenges*. Retrieved from <https://scholarworks.unr.edu/bitstream/handle/11714/5410/RSPMC.pdf?sequence=1&isAllowed=y>

This book summarizes the current status of scientific and management knowledge regarding global rangelands and the major challenges that confront them. There are three major themes: recent conceptual advances for rangeland science and management, implications of these conceptual advances with respect to management recommendations and policy decisions, major challenges confronting global rangelands in the twenty-first century.

\*Charnley, S. (2019). *If you build it, they will come: ranching, riparian revegetation, and beaver colonization in Elko County, Nevada*. Res. Pap. PNW-RP-614. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station, 39. Retrieved October 21, 2019, from <https://www.fs.usda.gov/treearch/pubs/57954>

In Elko County, Nevada, grazing practices on federal and private lands began to change in the early 1990s to restore proper functioning condition to degraded riparian areas that provide habitat for Lahontan cutthroat trout. Changes in grazing management focused on changing the frequency and duration of hot season grazing in riparian areas. These changes led to the recovery of riparian vegetation accompanied by the natural colonization of streams by beavers. People observed more water in streams, and water available later into the dry season and during drought years, as one consequence of beaver colonization. Ranchers interviewed identified many benefits of beavers for their ranching operations, especially increased water availability and forage production for livestock. Ranchers also described drawbacks of beavers; however, most ranchers believed the benefits of beavers outweigh the drawbacks.

Foster, S., et al. University of Nevada Cooperative Extension, & Nevada State Publications Repository. (2015). *Reducing cheatgrass fuel loads using fall cattle grazing* (Special publication, 15-03). Reno, Nevada: Nevada Cooperative Extension. Retrieved from <http://www.unce.unr.edu/publications/files/nr/2015/sp1503.pdf>

Cattle grazing a cheatgrass-dominated pasture during the fall dormant period for four years reduced cheatgrass crop by 43 percent to 80 percent each year while cattle weight and body condition score increased each year. The fall-grazed site had less cover from cheatgrass than the ungrazed site had. The fall-grazed site also had no decline in perennial grass cover. The seedbank potential for cheatgrass decreased much more on grazed areas than on the adjacent ungrazed areas, due to the grazing treatment.

Swanson, S., et al. (2018?) *Nevada rangeland monitoring handbook*, 3rd ed. Elko, Nevada: Nevada Rangeland Resources Commission.

The purpose of the Nevada Rangeland Monitoring Handbook is to provide a commonly agreed upon foundation of accepted rationale and practices for monitoring in the pursuit of better rangeland management. This guide is for ranchers, agency personnel and others as they cooperate, prioritize and align the short- and long-term monitoring they commit to in monitoring agreements, contracts, plans and other documents.

## Social science

Antonelli, M. & McCullough, M. (Eds.). (2012). *Greening libraries*. Sacramento, CA: Library Juice Press.

Asserting that libraries are not exempt from sustainability practice, this collection of articles suggests that libraries are at the forefront of this movement by providing an understanding of green practices within libraries.



Aristotle (2006). *On rhetoric: a theory of civic discourse*. (G. Kennedy, Trans.) Oxford, England: Oxford University Press.

Credited with influencing the development of rhetorical theory, this classic work defines rhetoric as the art of persuasion, defined by Aristotle as one of the three key elements of philosophy.

\*Bhattacharyya, P., Huss-Lederman, S., & Deering, B. (2017). *Collaboration across disciplines and cultures to promote civic engagement in environmental issues; a way to develop 21st century skills*. Abstracts with Programs - Geological Society of America, 49(6), @Abstract no. 233-12. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=geh&AN=2018-035489&site=ehost-live>

Transferrable skills, such as the ability to critically evaluate and analyze information, communicate orally and in writing, and the ability to work in teams across cultures are all prized by employers. During Spring 2017, students in Geology 301 (Environmental Geology) and English 162, a composition course for international students whose second language is English, collaborated in the Do Now U project, developed jointly by the National Center for Science and Civic Engagement (NCSCE) and KQED; engaging college students in on-line conversations about current scientific issues relevant to society.

Bullard, R.D. & Wright, B. (Eds.). (2009). *Race, place and environmental justice after hurricane Katrina. Struggles to reclaim, rebuild, and revitalize New Orleans and the Gulf Coast*. Boulder, CO: Westview Press.

Written by political and environmental justice experts, this collection of essays discusses all manner of the aftermath of hurricane Katrina, pointing out ways to effectively rebuild and providing suggestions for future urban development.

\*Carson, R. (1962). *Silent spring*. Boston, MA: Houghton Mifflin Harcourt.

Originally published in 1962, this book was the catalyst for the environmental movement which eventually led to the banning of the pesticide DDT and sparked changes in the laws affecting our natural resources.

Dobbs, R., Manyika, J. & Huttenlocher, D. (2016). *No ordinary disruption: The four global forces breaking all the trends*. New York, NY: PublicAffairs.

What we thought we intuitively understand about the world has changed and as such we need to reset our intuition in response to four forces that are transforming the global economy.

Frey, C.B.(2019). *The technology trap*. Princeton, NJ: Princeton University Press.

This work points out how technology's progression has historically caused a shift in economic and political power. Comparing the development of artificial intelligence to the industrial revolution, this book suggests that we should look to the lessons of the past in order to face the present.

Glave, D.D. (2010). *Rooted in the Earth: Reclaiming the African-American heritage*. Chicago, IL: Lawrence Hill Books.

Centered around the African-American experience with nature; this work explores the African-American culture's environmental heritage. Historically, African-Americans have overcome the greatest of odds to thrive in nature and develop advanced skills despite adversarial circumstances.

Harris, K., Kimson, A. & Schwedel, A. (2018). *Labor 2030: The collision of demographics, automation and inequality*. Boston, MA: Author. Retrieved from <https://www.bain.com/insights/labor-2030-the-collision-of-demographics-automation-and-inequality/>

The article details how aging population, new technologies and increasing inequality will impact future business. The purpose of this article is to help business leaders consider these factors and their potential threat to the global economy.

Kissinger, H.A. (2018, June). *How the enlightenment ends*. *The Atlantic*. Retrieved from <https://www.theatlantic.com/magazine/archive/2018/06/henry-kissinger-ai-could-mean-the-end-of-human-history/559124/>

A sweeping technological revolution is on the horizon and we have yet to fully face the inevitability that our world will increasingly become reliant on machines, data and algorithms.

Kissinger, H.A., Schmidt, E. & Huttenlocher, D. (2019, August). *The metamorphosis*. *The Atlantic*. Retrieved from <https://www.theatlantic.com/magazine/archive/2019/08/henry-kissinger-the-metamorphosis-ai/592771/>

Suggesting that artificial intelligence has the potential to be one of the most significant revolutions in history, this article asks: how will this affect human culture and our history?

\*Klinenberg, E. (2018). *Palaces for the people. How social infrastructure can help fight inequality, polarization, and the decline of civic life*. New York, NY: Crown Publishing Group.

America is divided. People are segregating themselves along racial, religious and cultural lines. The way forward lies in human connection. By focusing on our gathering places such as libraries and parks and developing what Klinenberg calls our “social infrastructure” we can bridge the divide and improve our civic life.

Lovins, A.B. (2011). *The essential Amory Lovins: Selected writings* (C.M. Burns, Ed.). Oxfordshire, England: Routledge.

Bringing together some of the most important work of one of the world’s leading authorities on energy and sustainability; this collection includes writings about the relevance of environmental issues and the sustainability concerns we face today.

Lund, S., Maniyika, J., Segal, L.H., Dua, A., Hancock, B., Rutherford, S. & Macon, B. (2019, July). *The future of work in America: People and places, today and tomorrow*. New York, NY: Author.

The U.S. labor market has drastically changed. Daily work could change for us as intelligent machines become the norm in the American workplace. This report points out that automation is not happening in a vacuum and today’s economy will affect our ability to thrive in light of coming change.

Maniyika, J., Chui, M., Miremadi, M., Bughin, J. George, K., Wilmott, P. & Dewhurst, M. (2017, January). *A future that works: Automation, employment, and productivity*. New York, NY: Author.

Produced as an Executive Summary by the McKinsey Global Institute, this report analyzes research about the future of work as automation increasingly impacts the global economy.

\*Maull, F. (2019). *Radical responsibility. How to move beyond blame, fearlessly live your highest purpose, and become an unstoppable force for good*. Boulder, CO: Sounds True.

Flouting the idea that our present predicts our future, Maull endeavors to teach us how to transform our thinking and embark on a life of service, compassion and positive change.

Ratcliffe, K. (2005). *Rhetorical listening: Identification, gender, whiteness*. Carbondale: Southern Illinois University Press.

Argues rhetorical listening facilitates conscious identifications needed for cross-cultural communication through eavesdropping, listening metonymically, and listening pedagogically.

Schwab, K. & Davis, N. (2017). *The fourth industrial revolution*. New York, NY: Currency.

Authored by a world-renowned economist, this book suggests that we all have an opportunity to shape the fourth industrial revolution which will be characterized by a new range of technologies that will affect economies, industries and governments.

Schwab, K. (2018). *Shaping the future of the fourth industrial revolution*. New York, NY: Currency. Pointing out that the fourth industrial revolution is just beginning this work declares that our actions as individual

\*Thiel, P. & Masters, B. (2014). *Zero to one. Notes on startups, or how to build the future*. New York, NY: Crown Publishing Group.

Proposing that there are still frontiers to explore, this book points out that future innovation will not be triggered by competition in the marketplace but by unique ideas and finding value in unlikely places.

Toulmin, S.E. (2003). *The uses of argument*. Cambridge, England: Cambridge University Press.

Claiming that some aspects of arguments vary depending on the field, this work points out a flaw absolutism is its failure to acknowledge that arguments don't ever vary according to their field.

Walsh, L. (2016). *Understanding the rhetoric of climate-science debates*. WIREs Climate Change, 8(e452). doi: 10.1002/wcc.452

This article asserts that despite the call from scientists and policymakers to remove rhetoric from the climate change discussion, rhetoric profoundly molds how we communicate about climate change and can serve as a tool to cope with these conversations.

Wilson, E.O. (2016). *Half earth. Our planet's fight for life*. New York, NY: Liveright Publishing Corporation.

Arguing that extinctions are imminent, this book suggests the way to intervene in these extinctions is to preserve the biodiversity of our planet and devote half of the earth's surface to nature. Critical of the idea that only the human species can be saved through engineering and technology, this book offers an achievable goal that we can all strive toward to protect all life on our planet

Wilson, E.O. (2007). *The creation. An appeal to save life on earth*. New York, NY: W.W. Norton & Company.

Attempting to find a bridge between religion and science, this book is about the fate of the earth. Presenting a vision meant to capture the acceptance of both pastors and scientists, this book is a call for opposing philosophies to see the common goal they share so that both may work together to prevent the destruction of the Earth before it is too late.

\*Wilson, E.O. (2019). *Genesis. The deep origin of societies*. New York, NY: Liveright Publishing Corporation.

Seeking to explain the meaning of human existence, this book examines evolutionary history and suggests that differing philosophies are purely genetic and evolutionary components. Through the study of non-human species, we can better understand humanity's origins.

## Water

\*Janin, H., & Carlson, U. (2019). *Historic Nevada waters: Four rivers, three lakes, past and present*. Jefferson: McFarland & Company, Inc.

The Great Basin is a hydrographic region that includes most of Nevada and parts of five other Western states. Drawing on a range of sources, the author addresses both the natural and the human aspects of the history and likely futures of Great Basin waterways.

\*Schultz, B., & University of Nevada Cooperative Extension. (2017). *An overview of agricultural production and agricultural water use in Humboldt county, Nevada, and the risk from withdrawing irrigation water* (Special publication, 17-08). Nevada: University of Nevada Cooperative Extension. Retrieved from <http://epubs.nsla.nv.gov/statepubs/epubs/31428003078835.pdf>



Agriculture is an important economic sector in Humboldt County, Nevada accounting for 17.7 percent of all agricultural product sales in Nevada. Agricultural water use is estimated to be about 384,000 acre-feet per year. If water is withdrawn from irrigation, the likely result will be large areas of abandoned cropland, most of which will revert to weeds. These weeds could easily expand to adjacent private and public lands creating a suite of adverse management issues.

\*Sterle, K., Singletary, L., Pohll, G., United States. Department of Agriculture, & University of Nevada Cooperative Extension. (2017). *Collaboratively modeling water resources in the Truckee-Carson river system* (Special publication, 17-04). Reno, Nevada: University of Nevada Cooperative Extension. Retrieved from <https://www.unce.unr.edu/publications/files/nr/2017/sp1704.pdf>

This publication explains efforts underway to collaboratively model water resources in the Truckee-Carson River System, focusing on climate-induced drivers of change. It reviews the hydrologic and operations models developed and integrated as part of this research program and the use of these models to examine climate-induced water supply variability in the study area.

### Community conversation notes

#### STRENGTHS: Building on success

- What is Nevada doing well in preserving its environment?

- What makes our community's people and environment unique?

- What key natural resources give our community an advantage in a 21<sup>st</sup> century economy, where things like resources scarcity may become the norm?

#### OPPORTUNITIES: Future opportunities

- What changes do you expect to see over the next five years, in the community and in the state?

- How is Nevada’s environment suited to take advantage of a technological revolution. For instance, automation or renewable energy?

- Which future changes could have a positive environmental impact on our state?

- Where can Nevadans make a difference in combating extreme weather or resource scarcity?

- What are key economic areas of untapped potential for Nevada?

## ASPIRATIONS: Changing for the better

- What kind of communities do we want?

- What are the most important attributes or essential components of Nevada's disparate communities?

- If you could wave a magic wand and transform your community, what change would you most want to see and why?

- Thinking globally: as you reflect on the environmental changes happening in the world today, describe one area that gives you hope. How might our communities respond to this one big hope?

**RESULTS: Measuring success**

- Considering our strengths, opportunities, and aspirations, how will we know we are on track in achieving our goal of preserving Nevada’s environmental resources and heritage?

- What measurable results does our community want to see and be known for in 10, 20, or 50 years?

## Community conversation post-workshop survey

1. Do you believe our community is in good shape to meet the demands of the 21<sup>st</sup> century?

Yes                  No

2. Do you feel confident that the state of Nevada as a whole can meet environmental challenges?

Yes                  No

3. Are you more comfortable discussing issues with your fellow citizens?

Yes                  No

4. What is your main “aha!” moment/takeaway from the session?

5. How would you rate the effectiveness of this workshop?

1 = completely ineffective, 10 = best workshop ever!

1      2      3      4      5      6      7      8      9      10



# PRESERVING NEVADA'S ENVIRONMENT SUMMIT 2019

Saturday, November 2, 2019 1 – 5 PM  
Nevada State Library Atrium Lobby – Carson City

At 11 a.m. see the NV license plate design to celebrate the 100<sup>th</sup> anniversary of Women's Suffrage, so come early!

## OUR SPEAKERS and DISCUSSION STRANDS



Opening Keynote 1 p.m.  
*At the heart of everything*

Nancy Cummings-Schmidt, MLS  
Nevada Humanities, Board Member  
State Council on Libraries and Literacy, Chairwoman  
Retired Library Director Washoe County Library System, Reno



Strand #4 *Making the invisible visible: addressing environmental justice through photovoice and civic engagement with youth in Nevada.*

Jennifer Willett, Ph.D.  
Assistant Professor, University of Nevada



Strand #1  
*Words matter: learning to listen for community values connected to climate and environment*

Lynda C. Olman, Ph.D.  
Professor of English, University of Nevada, Reno



Strand #5 *The new economy: the STEM economy and jobs related to environmental sustainability.*

Karsten Heise, M.Sc.  
Director, Strategic Programs  
Governors Office of Economic Development



Strand #2  
*From the field: environmental listening sessions across northern Nevada*

Tammy Westergard, MLS, State Librarian upper left  
Mark Andersen, Co-founder & President, Lifeliqe upper right



Inaki Arrieta Baro, Jon Bilbao Basque Library, UNR lower left  
Donna Cossette, Paiute-Shoshone Tribe lower right



Closing Keynote  
*Solar energy trailblazer as profiled in "The Energy Within Us: an illuminating perspective from five women."*

Rose McKinney-James  
Managing Principal  
Energy Works LLC  
and McKinney-James & Assoc.

Rose McKinney-James is the former President and CEO for the Corporation for Solar Technology and Renewable Resources, (CSTRR) and a former Commissioner with the Nevada Public Service Commission, she also served as Nevada's first Director of the Department of Business and Industry. "We have blazed new trails in the energy industry" says McKinney-James.



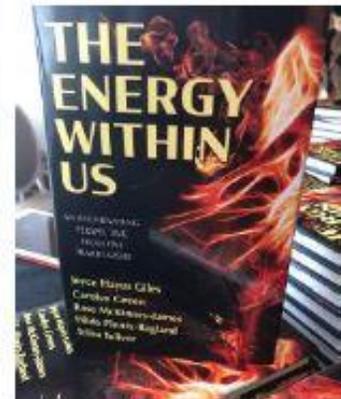
Strand #3  
*Solutions to information needs: curating a STEM collection and programs*

Kumud Acharya, Ph.D (video)  
President Desert Research Institute  
Rina Schumer, PhD  
Director, DRI Office of Education

The environmental summit starts a conversation about Nevada's way of life and pinpoints preservation issues facing Nevadans in the 21st century. With key findings from a summer road trip to rural Nevada locations, the summit will focus on impacts of extreme weather, community concerns, discovering solutions, convening respectful conversations, and promoting in-demand jobs in the 'green' and environmental sectors. The summit will feature a keynote addresses from two Nevada luminaries and prominent women who have journeyed more than once into the arena – gracefully impacting positive change.

Nevada State Library Atrium Lobby 100 N. Stewart Street, Carson City  
Seating starts at 12:30

Come at 11:00 and see the unveiling of the license plate to commemorate the 100<sup>th</sup> anniversary of Women's Suffrage – sponsored by the Nevada Commission for Women



FMI: 775-684-3306

**“Protecting and preserving Nevada’s way of life”:  
NSLAPR Environmental Listening Sessions across northern Nevada (America’s driest State)**

Between July 25 and August 3, 2019, the Nevada State Library went on a listening tour across 13 northern Nevada communities. The first goal was to better understand how each community believes Nevada’s environment should be preserved. The second goal was to determine which educational resources may be acquired and what programs might be offered to best fit rural Nevada’s environmental information needs.

Included here is a summary of 52 conversations held during 45 stops while traveling over 1,529 miles.

**ENVIRONMENTAL CONCERNS  
(IN RANKED ORDER)**

**#1 WATER:**

- drought
- changing precipitation: irregular snow pack vs. increased spring rain impacting ground water supply and growing season.
- losing water supply to Las Vegas
- over-allocation of ground water rights (Eureka)
- Arsenic in water (McDermitt)

**#2 FIRE:**

- naturally caused fires are increasing,
- man-caused fires are a concern, for example the Boy Scout Camp in Lamoille burned down in 2018
- Air quality, Nevada fire response, fire adaptive communities (fireadapted.org), cheat grass as a hot fuel. Nevada is the driest state in the west. Wetter springs but drier summers that leads to more fire.

**#3 RANGELAND HEALTH**

- Cheat grass
- Sage grouse
- Wild horses
- Grazing rights/issues

**#4 RISING TEMPERATURES**

- Drying out vegetation increases fire risk
- Water evaporates more quickly
- Changes in growth patterns, tree lines are getting higher
- Animal species are threatened (for example, Pica)

North Lake Tahoe (NV)	Winnemucca
Baker	McDermitt
Eureka	Denio
Ely	Fallon
Elko	Lovelock
Spring Creek	Washoe Valley
Lamoille	

**Top 9 Insights Gained:**

1. Librarians are community builders. In every town the library is the trusted community anchor and in some towns they are even the center of gravity. Librarians facilitate positive community development yet often aren’t fully aware of their impact.
2. The most important concerns are: (a) Water/drought, (b) Fire: it’s a threat to everyone and can foster discussion about prevention, which could be an opening to discuss extreme weather, (c) Rangeland health, (d) Rising temperatures.
3. Insights into language, i.e.: use phrases like “protecting our way of life and environment”, “regaining balance”; trigger words can like “climate change”, “biodiversity”, “sustainability”.
4. Some small communities are fragile and one environmental catastrophe or major business closure could result in an irreparable setback.
5. Most communities are playing defense out of necessity: they’re just trying to get by.
6. Every major stakeholder must be involved; we’ve identified the key ones.
7. All Nevadans love their Nevada way of life as well as the mix that makes us all Nevadans, but each group is trying to protect their way of life first.
8. Change will only occur if it’s led from the heart: the heart of all communities is in the trusted library because it’s the only institution for everyone.
9. The Nevada bookmobiles operated from the Elko, Lander, Eureka public library system (that also serves areas of White Pine County), the Humboldt County public library system and the Lincoln County public library systems are critical to the information needs of rural Nevadans.

## Program Leadership:

Nevada State Library, Archives and Public Records,  
Development Office

- Tammy Westergard, Nevada State Librarian

## In Cooperation with

Governors Office of Economic development

SCLL Ex Officio Member, Karsten Heise

## Nevada Humanities

Nancy Cummings – Schmidt, Board member

## STEAM Content Creators

Desert Research Institute, Education Division  
Science Alive Amelia Gulling, Leah Madison  
Lifeliqe, Inc.

Mark Andersen, Co-Founder & CEO

XR Libraries

John MacLeod, Director

## Research Advisors

Professor Lynda Olman, University of Nevada,  
Reno

Professor Jennifer Willett, University of  
Nevada, Reno and AmeriCorps

## Word for word ... a sampling:

"99% of our county is a resource economy."

Jake Tibbitts, Eureka County Natural  
Resources Manager

## Water:

"Water is life."

Abby Johnson, Great Basin Water Network

"Water rights have been over allocated in Eureka  
County and have to be brought into balance by 2025."

Jake Tibbitts, Eureka County Natural  
Resources Manager

## Fire:

"Months after Kate and I opened our restaurant a  
wildfire came within one mile of destroying Baker and  
our business."

Jake Cerese, Owner Kerouac's and Stargazer  
Inn, Baker, NV

"80-year old youth camp destroyed on Sept. 30, 2018  
in an explosive wildfire in Lamoille Canyon.

Elko Daily Free Press

## Rangeland health:

"Today because of the overgrowth and vegetation the  
fires are hot – way too hot."

Donna Cossette, Former Chairwoman  
Paiute-Shoshone Tribe

## Rising temperatures:

"The average minimum temperature here in Great  
Basin National Park has increased by 2 degrees in the  
past decade."

Gretchen Baker, Lehman Caves Ecologist



## Next steps:

- 👉 Leverage DRI's Science Alive program throughout Nevada public libraries
- 👉 Define resources to complete educational content and collections
- 👉 Start convening discussions in Nevada's libraries on how to preserve Nevada's environment: 2020