

DRAFT Meeting Summary

Great Basin LCC Science and Traditional Ecological Knowledge

Working Group: Workshop #1

July 15, 2014

Participants

S-TEK working group:

- Jason Barnes, Trout Unlimited
- Jeanne Chambers, USDA-Forest Service, Rocky Mountain Research Station
- Keith Hatch, BIA Northwest Regional Office (phone)
- Jim Hurja, Humboldt-Toiyabe National Forest
- Sally Manning, Big Pine Paiute Tribe of the Owens Valley (phone)
- Rachel Mazur, Humboldt-Toiyabe National Forest
- Maureen McCarthy, University of Nevada, Reno
- Kyle Mcfee, Paiute Indian Tribe of Utah, Shivwits Band of Paiutes
- Raul Morales, BLM, Great Basin LCC Steering Committee Liaison
- Dirk Netz, Humboldt-Toiyabe National Forest
- Jennifer Newmark, Nevada Natural Heritage Program
- Heather Ray, Upper Snake River Tribes Foundation (phone)
- David Readhorse, BIA Northwest Regional Office (phone)
- Donald Sada, Desert Research Institute, Division of Hydrologic Sciences
- Lawrence Snow, Paiute Indian Tribe of Utah, Shivwits Band of Paiutes

S-TEK Staff:

- Todd Hopkins, Science Coordinator, Great Basin LCC
- Matt Germino, Great Basin LCC, U.S. Geological Survey (phone)
- Ryan Orth, EnviroIssues
- Bridger Wineman, EnviroIssues

Meeting documents

- Agenda
- Workshop online exercise instructions
- Executive Summary from *Guidelines for Considering Traditional Knowledges in Climate Change Initiatives*, including Principles for Engagement
- Draft inventory of science and management research/information needs
- Source documents by ecoregion list (including links to documents)

Key Presentation and Discussion Points

Welcome and agenda overview

Ryan Orth, EnviroIssues, welcomed attendees and led introductions.

Todd Hopkins, Great Basin LCC Science Coordinator, provided an overview of the meeting agenda and expected outcomes.

Todd reviewed the work that has been done to date, and remaining milestones for the Great Basin LCC Science and Traditional Ecological Knowledge (S-TEK) working group process. The project team, with input from many contacts, has compiled a list of science synthesis and strategic planning documents relevant to the Great Basin as well as a draft list of science and management needs. While organizing and identifying gaps in these lists continues, focus for the working group is now turning to determining guiding principles which will be used later in the process to begin prioritizing the identified needs. With support of the Great Basin LCC Steering Committee, the working group will also develop an approach to integrating Traditional Ecological Knowledge (TEK) appropriately with the LCC's priorities. Through additional meetings and webinars, this working group will create a strategic plan for approval by the Steering Committee at the end of the calendar year.

Traditional knowledges/TEK

Todd said a goal of the LCC is to use the S-TEK strategic plan to better coordinate with tribes and build their capacity within the region. The LCC will ensure the strategic plan is inclusive of cultural resources and traditional knowledges. For the purposes of the LCC, the definition used for TEK is, "the evolving knowledge acquired by indigenous and local people over hundreds or thousands of years through direct contact with the environment." The LCC does not propose to delve into tribal cultural properties, but is interested in understanding what these sovereign nations' interests are, and how they overlap with LCC interests.

Approach to integrating TEK

Todd said orienting the LCC's science approach to include TEK involves many steps. For example, Todd said the LCC previously required a data management plan for all funded projects. In a recent change to protect confidential information, the LCC no longer requires a data management plan for proposals involving traditional knowledge. Instead, a data protection plan will be used, and the data will remain with the tribes rather than at a government agency. Data protection plans would be written by the tribes.

The LCC is committed to protecting cultural resources. It hopes to provide a model of tribal partnership in strategic science planning for the Great Basin through this process. There are a number of avenues the LCC has identified for integrating TEK into the science strategy. These include:

- Developing dialog on shared conservation goals;
- The exchange of traditional and western science to benefit tribal issues and circumstances;
- Exploring models for engagement of tribal membership and traditional practitioners; and

- Protocols to ensure protection of TEK and strategies to protect treaty rights and trust resources.

Todd presented a slide showing how TEK projects are addressed in the FY 2014 RFP recently released by the LCC. The RFP opportunity is intended to support tribal contributions to the development of the S-TEK strategy. The LCC is not seeking access to or specific information about cultural resources, but is interested in the methods, adaptation options and “process-oriented” findings that can inform other efforts in the Great Basin.

Comments and discussion

Maureen McCarthy, University of Nevada, commented that activities pertaining to water should be listed among the eligible activities listed in the RFP. Work under the RFP should focus on species as well as abiotic resources.

Kyle Mcfee, Shivwits Band of Paiutes, said the Southern Rockies LCC has a working group for tribal issues to help determine on which resources to focus.

Todd said there are useful examples of TEK projects funded by other LCCs including projects by the Klamath Tribe and the Tulalip Tribe. Projects may be local in nature.

TEK Projects funded by other LCCs

Kyle provided an overview of the approach the Southern Rockies LCC is taking toward addressing TEK through science funding. Developing TEK projects is challenging because of the lack of guidance and because each tribe has a different approach to TEK. The LCC has a cooperative agreement with the U.S. Fish and Wildlife Service to fund science needs assessment reports with tribes, which specify expected deliverables. Tribes determine what information to share and what to keep confidential.

Lawrence Snow, Shivwits Band of Paiutes, said the Southern Rockies LCC provided funding for developing a report on the historic conditions of the tribe’s homeland and materials which were gathered from the environment. Information was gathered by talking to tribal elders.

Todd described other funding sources for TEK projects. The Bureau of Indian Affairs and the Fish and Wildlife Service have both released RFPs recently to fund work with tribes. The Great Basin LCC hopes to build capacity by funding TEK projects year after year. Todd said he will send working group members information on the training for state and federal agencies working with TEK. The LCC may also organize subsequent trainings in Reno and Salt Lake City.

S-TEK guiding principles

Todd described a number of avenues through which it is envisioned TEK can be integrated into the strategic science plan for the LCC. These include:

- Developing a TEK-focused guiding principle and adopt guidelines for traditional knowledges;
- Working with tribal partners to identify resources at a high level to help determine research priorities;
- Capturing protocols in the LCC’s implementation plan, and refining the approach to TEK, especially as TEK-focused projects are funded and report findings.

Todd referred participants to *Guidelines for Considering Traditional Knowledges in Climate Change Initiatives* prepared for the Advisory Committee on Climate Change and Natural Resource Science (ACCCNRS). The guidelines were developed by a group which included indigenous persons, staff of indigenous governments and organizations and experts with experience working with issues concerning TEK. Todd proposed the S-TEK working group look to these guidelines as current best practices and consider adopting them into the S-TEK strategy. The guidelines include:

1. Understand key concepts and definitions related to Traditional Knowledges (TKs).
2. Recognize that indigenous peoples and holders of TKs have a right NOT to participate in interactions around TKs.
3. Understand and communicate risks for indigenous peoples and holders of TKs.
4. Establish an institutional interface between indigenous peoples, TK holders, and government for clear, transparent and culturally appropriate terms-of-reference, particularly through the development of formal research agreements.
5. Provide training for federal agency staff working with indigenous peoples on initiatives involving TKs.
6. Provide direction to all agency staff, researchers and non-indigenous entities.
7. Recognize the role of multiple knowledge systems.
8. Develop guidelines for review of grant proposals that recognize the value of TKs, while ensuring protections for TKs, indigenous peoples, and holders of TKs.

Each of the eight guidelines is discussed in greater detail in the ACCCNRS document. Ryan noted a guiding principle was drafted for use by the Great Basin LCC that speaks to these guidelines.

Comments and discussion

Rachel Mazur, Humboldt-Toiyabe National Forest, said some agencies have a tribal liaison staff person who can be called on to help lead efforts to communicate risks for indigenous peoples and holders of TKs.

Todd said tribal liaisons from agencies might be a helpful resource for the grant review process.

Rachel said the approach to TEK seems limited to tribes. There are other examples of traditional uses which are of value to researchers, like analyzing DNA samples from hides taken by trappers. Jeanne Chambers, Rocky Mountain Research Station, said a project which included interviewing ranchers about how they managed riparian areas provided much insight into how the landscape is managed and is another example showing traditional knowledge of interest to the LCC is not necessarily limited to indigenous people.

Rachel commented that a valuable outcome of a project that includes TEK is simply a better understanding of a tribe's history and ecosystems; which could help the tribe better protect their environment.

Working group members suggested edits to the guidelines to better adapt them to the role of the LCC:

- Don Sada suggested adding “and local peoples” to the guidance about TEK so expand it to encompass non-indigenous TKs as well.
- Maureen suggested removing the words “federal agencies.”
- Lawrence suggested combining the guidance listed under number 5 and number 6.

TEK priorities: Southern Rockies LCC example

Kyle directed the group to the working draft of the Southern Rockies LCC strategy, and its approach to recognizing TEK/cultural resources, as a viable model for Great Basin LCC.

Kyle said the Great Basin LCC is including TEK in the science working group, but it may also be helpful to address TEK through a separate process.

For the Southern Rockies LCC, resources and needs were compiled for the whole LCC and then narrowed to just five resource areas on which the LCC would focus; water, native wildlife, plants, cultural resources and habitat connectivity. A dot exercise was used to mark the resources of greatest importance. The science working group came up with a strategic synthesis plan and the group identified shared resources and priorities through interviews and workshops. Cultural resources were of primary interest to the tribes, but they are also interested in the other resource areas. The LCC is now convening a group to determine how to address each of the resources identified through the lens of the different geographic areas encompassed by the Southern Rockies LCC.

Comments and discussion

Todd said the Great Basin LCC is setting aside funding for TEK projects, and is considering convening a separate tribal working group.

Lawrence said the entire list of resources on the landscape is considered traditional to Native Americans. Agencies are working on resources that are also of traditional value, but cultural values are not included in most projects because they are developed and planned from a science perspective.

Don said science and cultural values should be included in the same process. As the various ecosystems on the landscape are considered the prioritization process should consider which species are important both from a traditional cultural perspective and from a science perspective.

Todd said he would prefer to address science and TKs through the same process for a more holistic perspective.

Great Basin LCC Goals

Todd said the purpose of guiding principles in the S-TEK process is to provide guidance, along with priority topics, for annual implementation planning. The Great Basin LCC has four goals and related objectives for each. Two of the LCC goals are science-focused and are suggested for adoption as guiding principles for the S-TEK process. As Ryan mentioned earlier, an additional, TEK-focused principle and accompanying objectives which refer to the ACCNRS guidelines, has also been developed:

Guiding principle: Support the exchange of western and traditional science to further basin conservation priorities and directly benefit tribal issues and circumstances.

Objective: Encourage dialogue on shared conservation goals between indigenous communities, local peoples and other practitioners, informed by the DOI ACCCNRS guidelines for considering traditional knowledges and other best practices.

Objective: Develop models for engagement of tribal membership and traditional practitioners of TEK.

Objective: Apply protocols to ensure protection of TEK and strategies to protect treaty rights and trust resources.

Todd will ask Raul Morales, S-TEK working group liaison to the GB LCC Steering Committee, to propose that this goal is added to the other LCC goals and objectives at a future Steering Committee meeting. Todd will discuss with Raul if the working group should develop an accompanying rationale for including the new goal and objectives.

Science and management needs – defining the long list

Todd said defining the long list of science and management needs is a current activity for the working group. The working group will define needs in three areas:

- Valued resources (focal species, key habitats);
- Drivers of change, related to climate, affecting these resources; and
- Management actions to address these drivers.

So far, the project team has compiled Great Basin science syntheses and strategic planning documents. An inventory of needs found within a subset of those documents has also been compiled. Copies of the document list and a draft matrix of science and management needs were distributed with the meeting materials.

Three online exercises were released the previous week to working group members to capture ideas corresponding to the three areas of needs. The working group reviewed the online exercises to, and edited and revised the content.

Ryan explained that the aim of the exercise is to identify the resources of greatest management concern. Not all resources need to be identified as the list will be winnowed to a very short list later in the prioritization process.

There will be another exercise later in the working group process for the prioritization of science and management needs, including setting criteria. This exercise will match resources and drivers and identify those which are most important. This approach is modeled after the strategic science planning process used by the North Pacific LCC. After pairing resources with drivers, the pairs were ranked and a scoring threshold set to arrive at a shorter list. The North Pacific LCC process resulted in six priority topics.

Science and management needs – valued resources

For the first area of science and management needs, valued resources, Todd said the key question for the group is, “What are the resources (species, rare habitats) of greatest management concern in the Great Basin?” Other questions include:

- Which resources are priorities for tribes?
- For each of these resources, what are the greatest research or information needs?
- Where are there gaps? What documents or individuals can speak to those gaps?

The group discussed the organization of valued resources in detail and made edits in real time. Online meeting participants were able to view the editing on their computers.

Comments and discussion

The group discussed which resources to include and at what level of detail.

- Matt Germino, USGS, said alpine and montane ecosystems should be listed separately.
- Jeanne said montane ecosystems should not be included in the priority list of resources.
- Jeanne said basin big sage brush ecosystems should be split out as its own habitat type.
- Jeanne listed the different type of juniper woodland habitats to include on the list.
- Don listed different types of springs to be broken out on the list.
- Maureen said to break out terminal lakes from mountain lakes.
- Jason Barnes, Trout Unlimited, said rivers and streams should be split into ephemeral and perennial.

Discussion also included how best to address cultural resources; whether concurrently with the biotic and abiotic resources of the region, or separately in its own category.

- Don suggested a description of the science and ecological importance as well as cultural importance is included for each of the major headings on the list of valued resources. Maureen similarly commented that cultural resources should be addressed at the same level as physical and biological resources.
 - Lawrence agreed, noting there is cultural component for each resource. Since water flows downhill, one could consider valued resources by starting at the mountain tops, because conditions there affect all of the waterways downstream. All springs may be considered sacred.
 - Maureen agreed as well. She said the group could lay out the organization of valued resources and do an accompanying cultural and historical thread at the highest level from mountains to basins.
- Maureen was concerned that the cultural aspect of valued resources is represented by only a few science working group members with a TEK perspective in a group otherwise composed of scientists for the prioritization process.
 - Don suggested cultural resources could be addressed by the proposal evaluation team. While evaluating proposals it will be important to note that some resources

have a higher priority for cultural resources. The evaluation matrix should account for this.

- Jennifer pointed out that workshop participants do not currently represent breath of tribal interests in the region. A more inclusive group will be needed to fully explore how best to address cultural resources and TEK in the science prioritization.
 - Lawrence suggested that the involvement of tribal representatives from Nevada would help the working group identify priorities relating to cultural resources.
- Todd said as the LCC works on integrating TEK, its capacity to address cultural issues will advance over a number of years. The LCC will continue to work on this issue. Todd asked tribal members on the working group to populate the portion of the needs list for cultural resources.

Science and management needs – drivers of change

Todd described the primary questions related to identifying drivers of change, including:

- What drivers, related to climate or climate change, may affect priority resources?
- For each of these drivers, what are the greatest research or information needs?
- Where are there gaps? What documents or individuals can speak to those gaps?

The group discussed the organization and contents of the list of drivers of change, particularly climate drivers that may affect valued resources. Todd explained that climate change is at the center of the LCC's approach. The LCC is a partner of the USDA Regional Climate Hubs and Climate Science Centers. The ability to of the LCC to describe specific priority interests regarding climate will help better inform funding requests.

The group discussed further the LCC's role as a cooperative rather than a regulatory agency and how the focus on climate helps the LCC act more effectively.

- In regard to addressing energy development as a driver, Todd said the LCC can work with regulatory agencies to inform their efforts on climate issues. Those agencies will create and help implement adaptation and mitigation strategies.
- Jennifer said a related management need is determining how best to inform regulatory agencies of climate change effects on valued resources.
- Jeanne said she supports the LCC approach of taking a strong climate focus. Climate has many related effects and there is only so much the LCC can do.
- Jason added that a focus on climate change can show what kind of environments will be most affected by climate change. Also knowing the major drivers of change besides climate will help determine where interactions indicate priority drivers.
- The group determined to include energy development in the list and later crosswalk it with the other drivers, like interactions of climate and land use, etc.

Todd said North Pacific LCC science prioritization example categorized climate drivers as primary and secondary. The group agreed to also use this approach for categorizing drivers related to climate change.

The group discussed how to organize climate drivers and whether water and temperature are drivers or the thing being impacted. The group decided to populate the list of drivers and then consider where the drivers are affecting valued resources to reach of list of climate-affected resources.

The group discussed how to address variability as a driver. Jeanne said, for example, that stream flows and fire regimes show variability. Don suggested using two categories for variability: one for extreme events and within the margins of natural resistance and resilience and a second category for fluctuations in environmental regimes outside the historical range of variability. Extreme events can be nested under variability on the list.

The group discussed how to address a number of other drivers of change and related issues including:

- Solar radiation (categorized as a secondary effect).
- Changes in ecosystems processes, function and interaction (secondary effect).
- Active management (under adaptation measures).
- Changes to the Endangered Species Act (under wildlife management changes).
- A catch-all category could be added for drivers and related issues which do not easily fit into a category in the list organization.

Todd said that staff will go back and reorganize and consolidate the list after this session and distribute it to the working group members for further review.

Science and management needs - management actions

The final primary category of science and management needs addressed through the workshop exercises was for management actions oriented toward the primary drivers of change.

Management actions and related information needs identified by the group include:

- Determining the threshold of habitat in need of restoration to meet minimum conditions.
- Better understanding how interactions among species will change given climate change.
- Species location information and high resolution vegetation mapping for all of the priority areas, including appropriate temporal and spatial resolution.
- A compilation of ecosystem types based on dominant species and productivity. This would allow the prioritization of areas where there is critical need for more detailed information.
- Monitoring and surveying needs for aquatic resources. Most springs cannot be picked up by Landsat and require field surveys.
- Foundational data needs to identify what data are available, where there are data gaps and data maintenance which is needed.
- Access to, sharing and integration of data for land management decision making.
- The location of historic seed gathering sites.
- Soil surveys including complete soil surveys on National Forest lands and filling other gaps in existing soils data.

The group discussed the idea of holding a geospatial summit for the Great Basin to help identify data gaps.

The group discussed several overarching issues regarding the determination of priority management needs, including these comments:

- Maureen suggested identifying management actions in regard to the main drivers of change.
- Don said reducing negative effects related to other drivers is one approach to mitigating the effects of climate.
- Jason suggested a how-to guide for connecting research and management action.
- Todd said the approach taken by the Great Northern LCC was to begin by completing geospatial data for their ecoregion. For the Great Basin, management priorities for the first few years might be filling in the foundational data needs of the region, including monitoring of vegetation and climate.

Todd requested working group members to add research and management needs to the list after the meeting. Descriptions of suggested action should include identifying the needed action, how it should be done and where it is needed.

Final comments and next steps

Workshop participants offered some final comments on the workshop and S-TEK prioritization process, including:

- Don said the scale of the discussion of needs can be confusing. Setting the bounds for the needs that will be the LCC's priorities will be helpful. This could mean focusing on describing needs in terms of the projects which should be funded.
 - Todd said the science needs should be described as specifically as possible. In reviewing proposals, it can be difficult to determine which of the needs of the region a particular project aims to address. Apart from that, though, foundational needs should be identified at a higher level.
- Maureen said she likes the working group process and found it helpful to understand how people frame the problems that are important to the science. The workshop discussion started on the subject of cultural resources, but the later discussion of drivers and management needs did not include TEK. The working group will need to further consider TEK.
 - Todd said he would like to strengthen engagement with tribal groups and appreciates any advice participants provide.
 - Kyle said it can be hard to get tribes involved. It would be good to have tribal groups in the Great Basin list their priority resources and needs.
 - Lawrence added that regional tribes should be convened to determine their needs for prioritization.

Todd and Ryan thanked all participants for their involvement and helpful input.

The next meeting is a webinar to be held August 13.