

Science and Traditional Ecological Knowledge Strategic Plan

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Science and Traditional Ecological Knowledge Strategic Plan Executive Summary

Purpose of the Strategic Plan

The Science and Traditional Ecological Knowledge (S-TEK) Strategic Plan guides the Great Basin LCC's science program over a three to five year period (2015-2019). The plan outlines the LCC's priority topics and how they will be updated, describes the process to determine annual focal topics and activities, and outlines how the LCC will implement, evaluate and adjust the science program.

Priority Topics

The Great Basin LCC S-TEK Working Group and Steering Committee identified priority topics to guide LCC science program activities, represented by two interrelated drivers at work across Great Basin ecosystems.

A related set of second-order priority topics represent some of the most important challenges currently facing Great Basin ecosystems.



Priority topics

Adaptation to changes in water availability, temperature, climate variability, and extreme climatic events

Climate-related effects in the Great Basin are the source of dramatic changes on the landscape including extreme growing season temperatures, changes in the level and timing of water availability, and substantially altered ecosystem conditions which impact ecological resources and human use.

Adaptation to changes in ecosystem structure, processes, function, and interactions

Climate change, habitat disruption from development, grazing, ground and surface water use, introduction of invasive species, disease and altered fire regimes all interact to change the landscape of the Great Basin.





Potential Activities

The Great Basin LCC leads, coordinates and supports a strategically-designed suite of integrated activities that align with its priority topics and span ecological and jurisdictional boundaries. The Steering Committee will determine the activities for inclusion in the LCC's annual work plan with input from the S-TEK Working Group and the broader Great Basin conservation community.

Current and Potential LCC Activities

Knowledge Discovery

The LCC supports identifying and addressing gaps in data and understanding, conducting analysis to better understand ecosystem processes and interactions, developing new decision support tools, and developing and testing of new methods, tools and techniques for habitat conservation and restoration. Activities may be performed by the LCC directly or through support of unique projects.

Information Stewardship and Synthesis

The LCC has a role in locating, assembling and analyzing previously existing data in novel ways to inform conservation. It supports the synthesis of information from multiple scientific disciplines, promotes development of science-based tools, and underwrites efforts to summarize the current state of scientific knowledge to inform natural and cultural resource managers.

Conservation planning

The LCC will conduct or support adaptation planning efforts to assist management decisions related to uncertainties of future change. It will also contribute to other ecoregion-based conservation planning and design efforts that address priority species and habitats. Planning also includes working with tribes, and local and state governments, to better understand conditions and apply best practices for climate change adaptation.

Program Implementation

Implementation includes the strategic support of tools and trainings to advance restoration and conservation. Support may include in-kind staff resources and leveraging partners' conservation investments. The LCC supports work in which it is uniquely positioned to meet unfulfilled conservation needs.

Network Building

The LCC serves as a bridge between organizations with different mandates and resources, creating efficiencies and enhancing collaboration. Activities may support or contribute to sharing information and tools for science and conservation and comprehensive efforts between organizations to help the public understand ecological and cultural issues of the Great Basin.





Implementation

The LCC implements the S-TEK Strategic Plan by determining annual focal topics and science program activities, carrying out the annual work plan, providing support for unique projects, and reporting and evaluating activities.

Determining annual focal topics and activities

The LCC will use its priorities to define annual focal topics and activities to pursue while remaining flexible and responsive to ongoing scientific research, management imperatives and other emerging needs.

Project support

As in past years, LCC activities include supporting critical conservation research. The LCC will hold-over available resources in some years to enable larger, landscape-scale projects. The LCC will distribute the bulk of available funding to projects which address multiple ecosystems at the landscape scale, and to climate adaptation trainings and planning with Great Basin tribes. A smaller funding set-aside will be established to ensure capacity to respond to emerging issues and to address second-order (ecosystem-based) priority topics. Additional TEK-focused opportunities may fall under either the cross-cutting focal topics or the set-aside for emerging issues.

Pre-proposal application packets will be released in fall prior to each RFP calendar year. An invitational RFP will be released for selected projects in winter with contracts in place before the start of the typical field season.

Evaluation and Reporting

The LCC will regularly evaluate and report on the performance of science program activities following the S-TEK strategy to inform ongoing plan implementation and adaptation.

Focal topic criteria

Timely	address pressing landscape-scale ecological opportunities and challenges
Achievable	with tasks scaled to available resources
Effective	enhance partnerships and outreach to further science needs
Relevant	address the LCC mission, goals and objectives
Unique	fill gaps in understanding and fill needs not otherwise addressed
Regionally coordinated	align with goals and activities of LCC-partner organizations
Leveraged	help leverage future partner efforts within the LCC boundaries
Nationally coordinated	compliment the National LCC strategy

Introduction

This plan summarizes the strategic direction of the Great Basin Landscape Conservation Cooperative (LCC) science program for the three-to-five-year period beginning in 2015.

The Great Basin LCC is a self-directed partnership led by its Steering Committee which includes representatives from federal and state agencies, tribes, nongovernmental organizations, universities, industry and others from the Great Basin region. The LCC links researchers, resource managers and other users to apply science; brings additional resources to bear on landscape-scale conservation issues and opportunities; and facilitates coordination of a wide range of efforts to respond to climate change, invasive species, wildfires, human development and other stressors across the Great Basin.

LCC Mission

The Great Basin LCC enhances understanding of the effects of changing climate and other natural and human impacts across the region and promotes the coordination of science-based actions to enable human and natural communities to respond and adapt to those conditions.

LCC Goals

- 1) Provide leadership and a framework linking science and management to address shared ecological, climate, and social and economic issues across the basin.
- 2) Focus science and management actions to sustain natural resources in the context of changing environmental conditions.
- 3) Enhance collaboration to integrate science and management among Great Basin LCC partners particularly as related to climate change and other landscape scale change agents.
- 4) Support the exchange of western and traditional science to further basin conservation priorities and directly benefit tribal issues and circumstances.
- 5) Promote communication and education.

Purpose of the strategic plan

The Steering Committee directed the LCC to form a working group and incorporate input from the Great Basin conservation community into a strategic plan to guide the LCC's efforts related to S-TEK for three to five years. The LCC previously identified short-term science priorities to guide research in the Great Basin including invasive species, fire, sagebrush habitats, sagebrush-dependent species and Greater Sage-Grouse.

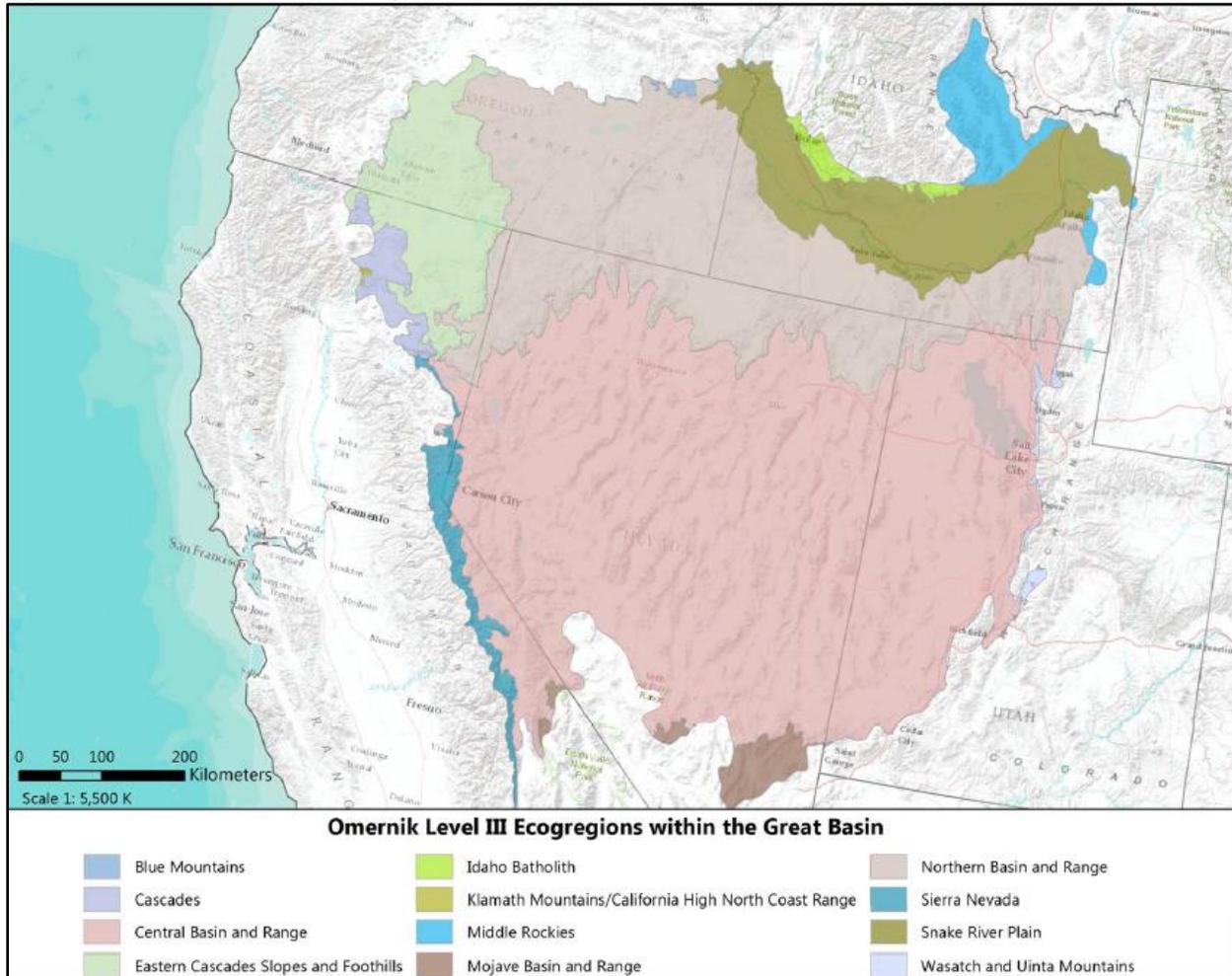
This strategic plan will aid comprehensive LCC planning efforts. It will also provide transparency to LCC partners and potential partners to enhance coordination and collaboration on shared goals. The strategic plan identifies the LCC's priority topics, describes the process to identify annual focal topics and activities, outlines the annual timeline for implementing LCC science activities and documents considerations for evaluation and reporting.

Introduction (continued)

LCC location and geography

The Great Basin is a diverse and unique area of the United States that includes 12 different ecoregions¹, (Figure 1). Science priorities identified in this plan may be specific to an ecoregion or apply to ecosystems which occur in multiple Great Basin ecoregions. Additional discussion and application of Great Basin ecoregions and ecosystems is provided in Appendix B, Ecosystem-based priorities and Appendix F, Strategic planning and science syntheses source documents.

Figure 1: Omernik Level III Ecoregions within the Great Basin



¹ The ecoregion approach to categorizing the landscape is a tool which can be used by land managers to develop management strategies to achieve desired outcomes. Sandra A. Bryce; James M. Omernik; David P. Larsen. (1999). "Environmental Review: Ecoregions: A Geographic Framework to Guide Risk Characterization and Ecosystem Management" Environmental Practice, Volume 1, Issue 03, pp 141-155 DOI 10.1017/S1466046600000582

Priority Topics

Priority topics are aligned with the LCC's mission to strategically advance understanding and coordination around the effects of landscape change. They will guide the LCC's science program activities to better understand, respond and adapt to these conditions over the next three to five years. The LCC identified a related set of second-order priorities which represent some of the most important challenges currently facing ecosystems of the Great Basin.

The LCC will support integrative science and planning which connect research and management at the landscape level. In so doing, the LCC will prioritize activities that address climate change-related drivers of ecosystem change that interact across ecosystems.

The LCC will further develop and focus priority topics biennially through implementation of this strategic plan. Biennial priority topic development will include articulation of priorities for larger-scale project support in FY16 (see Activities). The LCC will also maintain flexibility to support emerging or transformative science when opportunities arise. Additional priority topics that address emerging issues and opportunities may be identified through the Steering Committee as the strategic plan is implemented.

The priority topics for the LCC are represented by the two interrelated drivers described below.

Priority topics

- Adaptation to changes in water availability, temperature, climate variability, and extreme climatic events
- Adaptation to changes in ecosystem structure, processes, function, and interactions

Adaptation to changes in water availability, temperature, climate variability, and extreme climatic events

Changes in precipitation and temperature regimes and their inherent variability in the Great Basin are the source of dramatic changes on the landscape. Climate projections indicate warming temperatures in the Great Basin including extreme growing season temperatures throughout vast areas.² With warming temperatures more precipitation is falling as rain rather than snow, which is also changing the level and timing of water availability. However, how the timing and amount of precipitation interacts with temperature thresholds to affect the structure and function of ecosystems across the landscape it is not precisely understood. Distributions of plant and animal species are affected by these changes, as are the ecosystem services provided to humans.

Changes in ecosystem structure, processes, function and interaction

Climate change, altered disturbance regimes, habitat disruption from development, inappropriate grazing, ground and surface water use, introduction of invasive species, disease, and pathogens all interact to change the landscape of the Great Basin. The geographic distribution and size of contemporary ecosystems is shifting and novel ecosystems are developing with the changing climate. Impacts from ground and surface water withdrawals have downstream and inter-basin effects. Human

² Note: Descriptions of ecological challenges are adapted from *Central Basin and Range Rapid Ecoregional Assessment Examination of Findings*, (2015) unpublished draft.

Priority Topics (continued)

population growth, development, and land use serve as a vector for the spread of pollution and invasive species. A body of research has documented the contraction of the Great Basin’s sage brush ecosystems due to compounding threats from altered fire regimes, inappropriate grazing, invasive annual grasses, and expanding conifers. The LCC will support work to identify and explore additional ecosystem changes in the Great Basin.

Second-order priority topics

Second-order priority topics are composed of five climate-related drivers as they apply to one or more of the primary Great Basin ecosystems, as shown in Table 1. Though not comprehensive, these indicate areas of interest for the LCC given its mission and the current state of ecology and land management in the Great Basin. The topics which became second-order priorities were identified through an impact matrix exercise, pairing high-value resources and key climate drivers (see Appendix A, Methodology). Working group members characterized the ecosystem categories with summary statements and examples of science and management needs, identified from conservation plans and science synthesis documents, as well as their professional expertise in the field. Additional descriptions of the ecosystem categories and their respective drivers, including specific areas of interest, are compiled in Appendix B, Second-order (ecosystem-based) priority topics.

Table 1: Ecosystem categories and related drivers used to define second-order priority topics

Climate-related Drivers	Ecosystem categories					
	Alpine/subalpine	Forest and woodlands	Shrublands	Rivers/streams, riparian areas	Lakes/reservoirs	Groundwater issues, wetlands, springs, playas
Surface water / groundwater interactions	X			X		X
Surface water availability	X				X	
Fire (wildfire/prescribed fire)		X	X			
Invasive species		X	X			
Insects, disease, and pathogens		X				

Potential activities

The Great Basin LCC seeks to lead, coordinate, or support work that aligns with its priority topics, including activities to develop, implement and evaluate shared, science-based landscape-level conservation efforts. This work will take place through initiatives and programs developed and delivered through the LCC itself, research supported by the LCC, as well as other activities implemented through partnerships with organizations working in the Great Basin. LCC activities are strategically designed and integrative, ranging from the development of new information to advancing its effective application on the landscape.

Current and potential future LCC activities are categorized to help illustrate the connections between activities and to provide a framework for planning work that crosses ecosystem and jurisdictional boundaries. The S-TEK Working Group and Steering Committee will determine the specific activities for inclusion in the LCC work plan on an annual basis (see Implementation).

Categories of LCC activities

- Knowledge Discovery
- Information Stewardship and Synthesis
- Conservation Planning
- Program Implementation
- Network Building

Categories and their respective activities are summarized in relation to relevant LCC goals and priority topics in Table 2. In cases where a single activity or initiative includes aspects of multiple categories the primary category is noted.

Table 2: LCC activities

Knowledge Discovery			
<p>Knowledge discovery encompasses the innovative science work the LCC supports. It includes identifying gaps in data and understanding; addressing those gaps through data collection including monitoring and surveys; performing analyses to better understand ecosystem processes and interactions; developing new decision support tools that expand our ability to understand and predict changing ecological conditions; and developing and testing of new methods, tools and techniques for habitat conservation and restoration. These activities include work with Great Basin Tribes to better understand the role and interaction of traditional ecological knowledge with Western practices in conservation. Knowledge discovery activities may be performed by the LCC directly or through support of unique projects (see Implementation).</p>			
	LCC goals	Priority topics	2 nd -order priorities
Stimulate leveraged conservation initiatives.	All	C	
Conduct research and technical support.	All		C
Provide support for TEK-focused projects.	All	C	C
Support landscape-level mapping and conservation design projects that cross jurisdictional boundaries to support shared research priorities.	All	C	
Coordinate issue-based workshops to identify available data, data gaps, and information needs not being met by other Great Basin organizations.	1, 2, 3		
Conduct a geospatial needs assessment with Great Basin conservation practitioners.	1, 2		
Information Stewardship and Synthesis			
<p>The LCC has an important role in locating, assembling and analyzing previously existing data in novel ways to inform conservation. It supports the synthesis of information from multiple scientific disciplines to improve the understanding of complex systems and promotes the development of science-based tools. The LCC also underwrites efforts to summarize the current state of scientific knowledge in a given field for the benefit of natural and cultural resource managers.</p>			
	LCC goals	Priority topics	2 nd -order priorities
Create syntheses by merging information from diverse fields and products in new and innovative ways.	1, 2		
Develop novel applications of existing science-based tools to emerging conservation challenges.	1, 2		
Catalog availability of existing geospatial natural resource data in the Great Basin.	1, 2		
Facilitate improved data sharing by both leveraging existing data portals and developing novel data exchange platforms.	1, 2		
Implement data management standards for all GBLCC supported products.	1		
Conservation Planning			
<p>The LCC will conduct or support adaptation planning efforts to assist management decisions related to uncertainties of future change. The LCC will also contribute to other ecoregion-based conservation planning and design efforts. Contributions may include LCC-leveraged support, staff time, or technical assistance. Conservation planning activities include efforts focused on the entire Great Basin or its sub-regions, or efforts that address priority species and habitats. Planning also includes working with tribes, local, and state governments to better understand and adapt to changing climatic conditions and related ecological changes and promoting and supporting the use of climate smart principles and scenario-based adaptation strategies.</p>			
	LCC goals	Priority topics	2 nd -order priorities
Support Spatially Explicit Scenario Planning for the Great Basin, the emerging Klamath Basin Collaborative, the West-wide Crucial Habitat Assessment Tool (CHAT), the Wildfire and Invasives Team of the Western Association of Fish and Wildlife Agencies, the Sagebrush Conservation Science Network, and The Nature Conservancy’s Land Protection Initiative.	All	C	C
Provide climate adaptation training and develop adaptation plans.	2, 3, 4, 5	C	C
Program Implementation			
<p>Implementation is the strategic use of tools and training to advance restoration and conservation. While LCC partners typically lead habitat restoration efforts, the LCC supports this work through staff participation or leveraging conservation efforts of partners, where the LCC is uniquely positioned to meet strategic conservation needs. In 2015, for example, the LCC and the U.S. Fish and Wildlife Service’s Partners for Fish and Wildlife Program joined forces to treat about ten acres of private lands with a cheatgrass killing bacteria (AK55) to test its efficacy. This category of activities also includes refining LCC science priorities to better align with current land management and decision-support needs.</p>			
	LCC goals	Priority topics	2 nd -order priorities
Initiate discussion with state agency partners to help coordinate science priorities across the Great Basin in regard to their detailed wildlife action plans.	1, 2, 3		
Network Building			
<p>Network building refers to the LCC’s role in bridging organizations with different mandates and resources to enable efficiency and collaboration and advance conservation. Activities may support or contribute to comprehensive and collaborative efforts among organizations to help the public understand ecological and cultural issues of the Great Basin. This could include the development of interactive decision support or educational tools and maps. It could also include featuring other organizations in events in which the LCC is involved and engaging with Great Basin Tribes around shared priorities.</p>			
	LCC goals	Priority topics	2 nd -order priorities
Co-sponsor the Great Basin Climate Forum(s) and the Great Basin Consortium to build dialog and partnerships for addressing the multifaceted challenges, gather input on S-TEK priorities and focal topics, build partnerships and inform the broader conservation community about LCC activities.	2, 3, 5	C	C
Reach out to Great Basin Tribes to determine where Tribal priorities may match or overlap with GBLCC goals and identify further priority topics and actions. Outcomes may include project proposals, workshops and trainings, and related GBLCC and partner initiatives.	4		
Support development of interactive educational tools, including maps.	5		

Activities key:

C: Current activities to continue	Yellow: Direct LCC support	Green: LCC-led activities that leverage partner support	Blue: Partner-led activities
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Implementation

Implementation of the S-TEK plan will follow a recurring annual cycle. The primary task areas include:

1. **Science program planning:** Determine focal topics and work plan activities.
2. **LCC science programming:** Implement work plan and ongoing regional partnership-building activities.
3. **Project support:** Solicit and review project proposals, and support top research projects.
4. **Reporting and evaluation:** Inform adjustment of activities and strategy.

The annual schedule is summarized in Table 3, and detailed in Appendix D, *Annual Implementation Schedule*.

Table 3: Summary of science program annual schedule

	Q1	Q2	Q3	Q4
Planning			Determine focal topics (biennially); Prepare annual activities	
LCC science programming	Implement workplan Build partnerships for future research			
Project support (select years)	Review proposals	Make funding decisions and release funding	Release call for pre-proposals	Select pre-proposals for invitational RFP
Reporting & evaluation		Request interim reports from select projects	Evaluate and adjust activities and strategy	Compile annual report/memo

Planning: Determining annual focal topics

The LCC will revisit its priority topics before the start of each year and define a set of supporting focal topics to pursue through activities and projects. The annual determination of focal topics will allow flexibility and responsiveness to ongoing scientific research, management imperatives, and other emerging needs. Focal topics for S-TEK activities, including project support, will have the following qualities:

- **Timely:** address pressing landscape-scale ecological opportunities and challenges
- **Achievable:** with tasks scaled to available resources
- **Effective:** enhance partnerships and outreach to further science needs
- **Relevant:** address the LCC mission, goals, and objectives
- **Unique:** fill gaps in understanding and fill needs not otherwise addressed
- **Regionally coordinated:** align with goals and activities of LCC-partner organizations and adjacent LCCs
- **Leveraged:** help leverage future partner efforts within the LCC boundaries
- **Nationally coordinated:** compliment the National LCC strategy

Implementation (continued)

The S-TEK working group will solicit input from LCC partners in the summer timeframe (through a survey distributed through the LCC newsletter and website, or other means) to inform development of focal topics. The S-TEK working group will recommend focal topics to the Steering Committee for approval in the August timeframe and subsequent sharing with the Great Basin research community. Focal topics may rotate, continue from a previous year, and/or new topics may be designated based on feedback and evaluation results.

Planning: Determining science program activities

Annual science program activities will be proposed by LCC partners through outreach initiated by the LCC. In addition to the qualities of focal topics listed above, activities must have outcomes which can be evaluated and reported to demonstrate effectiveness and to accommodate adaptive learning.

Proposed activities may address emerging science or management needs. The LCC will maintain flexibility to respond to innovative ideas, new opportunities, and changes in available resources or policies.

The S-TEK working group will develop a list and schedule of recommended S-TEK-related activities for the Steering Committee to consider and include in the LCC's annual work plan, aligned with the December Steering Committee meeting.

Leveraging funds to support the science program

The LCC will distribute the bulk of available funding to projects which address multiple ecosystems at the landscape scale, and to climate adaptation trainings and planning with Great Basin tribes. A smaller amount of funding will be set-aside to ensure capacity to respond to emerging issues and to address second-order (ecosystem-based) priority topics. Descriptions of each project category are shown in Table 4. The S-TEK working group may recommend changes to the schedule based on identified needs for each upcoming year.

The LCC will hold-over available resources in some years in order to enable larger, landscape-scale projects. In years when available resources are held over, some activities will focus on building partnerships and increasing capacity for the next RFP year. Principal Investigators will have the option to propose projects of either two-to-four-years in length. Additional TEK-focused opportunities could fall under either the cross-cutting focal topics or the set-aside for emerging issues.

Implementation (continued)

Table 4: Project categories

Category	Description	Schedule
Primary project categories		
Cross-cutting focal topics	LCC priority topics and additional focal topics as determined annually. These are ecoregional, cross-cutting projects which will account for the largest share of available project resources. Projects which address TEK may fall under this category.	Bi-annual
Tribal climate adaptation capacity building and planning	Support trainings and development of vulnerability assessments and adaptation plans for tribes	Ongoing
Set-aside		
Second order priority topics	Typically smaller projects which address ecosystem-based priority topics.	Bi-annual
Rapid response to emerging issues	Work that addresses new opportunities and challenges. Projects may be developed by the LCC or by partners. Projects which address TEK may fall under this category.	Considered annually

Project solicitations will follow a schedule aligned with typical annual research tasks (spring/summer field season). The S-TEK working group will develop pre-proposal application packets for release in September prior to the RFP calendar year. Pre-proposal applications will be due back after 30 days and reviewed by staff in November.

The LCC will evaluate pre-proposals and invite those that best meet the priorities and criteria to submit full proposals. The LCC may suggest partnerships between entities proposing similar or complementary work, or refinements in scope. Full proposals will be reviewed and scored by subject area experts and time will be allowed for structured follow-up questions to Principal Investigators. The LCC Project Selection Team will present funding recommendations to the LCC Steering Committee. Funding is typically dispersed via Interagency or Cooperative Agreements. Appendix B: Annual Implementation Schedule includes a summary table of funding tasks by month as well as a quarterly summary of tasks.

Lessons learned from previous RFP processes

- Request pre-proposals to limit the number of full proposals needing review
- Provide adequate time to recruit the proposal review team
- Avoid reviewing proposals during field season
- Work to distribute funding before the federal fiscal year end in October
- Provide a mechanism for asking clarifying questions of Primary Investigators during proposal review

Implementation (continued)

Weighted criteria for scoring project proposals

Project proposals will be scored in two equally-ranked categories: technical criteria, and management and mission alignment criteria. Weighting is also applied to the individual criteria within each category.

- **Technical criteria – 50 points**
 - Scientific merit and quality of proposed research (30 points). If this category averages 20 or less, the proposal is unlikely to be funded.
 - Study team qualifications (10 points)
 - Budget, work plan (10 points)
- **Management and Mission Alignment Score – 50 points**
 - Management significance (30 points). If this category averages 20 or less, the proposal is unlikely to be funded.
 - Coordination and engagement (20 points)

The top-ranked proposals will be evaluated by the review team and those ranked the highest in both categories will be recommended to the Steering Committee. In making final funding decisions, the Steering Committee will consider factors such as cost, project location or impact to the mission of the LCC. The Steering Committee will also consider building a portfolio of projects which is representative of the important topics, geographies and ecosystems encompassed by the Great Basin. The Steering Committee will discuss the proposal recommendations during the May meeting and approve the funding decision. The LCC Science Coordinator will notify the applicants of the final decision.

The LCC has established a process for tracking submitted proposals, data management plans and project outcomes and metrics (see Appendix H, LCC Project Tracking Lifecycle) to serve as a data link between LCC supported science products (data, metadata, tools, reports, etc.) and the LCC science plan and strategic plan elements. The linkage includes products cataloged and archived on ScienceBase, which has many robust features including a rich metadata repository. Various science plan meta-analysis reporting options can include LCC supported science trends, supported science gap analyses, breakdown of science products and related science plan components, spatial summarization of science plan components, etc. Development of the Reporting Portal is being coordinated with National LCC reporting requirements and across several other LCCs.

Evaluation and reporting of S-TEK activities

The S-TEK working group will evaluate and report science program activities and outcomes, including supported projects, based on the criteria shown below. The use of criteria enables qualitative reporting that reflects the LCC goals and objectives most relevant to S-TEK. A crosswalk of evaluation criteria with the U.S. Fish and Wildlife Service Science Investment and Accountability Schedule is shown in Appendix E.

Evaluation criteria

Criterion 1: Projects and activities focus science and management actions to sustain natural resources in the context of changing environmental conditions.

- Does the strategic plan successfully facilitate the development, integration, and application of social and natural scientific information needed to inform water, land, fish, wildlife, and

Implementation (continued)

cultural heritage management decisions?

- How successfully have LCC-supported projects and activities increased resilience to landscape changes, tested scientific assumptions, and evaluated effectiveness of conservation actions to inform adaptive management?

Criterion 2: Projects and activities enhance collaboration to integrate science and management among Great Basin LCC partners particularly as related to climate change and other landscape scale change agents.

- How has the LCC supported coordination and integration of conservation science and management actions at the landscape scale, leveraged the capabilities and support of respective agencies/organizations/partnerships, and provided real-time situational awareness of on-going conservation efforts?

Criterion 3: Projects and activities support the exchange of western and traditional science to further basin conservation priorities and directly benefit tribal issues and circumstances.

- How successfully have LCC-supported projects and activities:
 - Encouraged dialogue on shared conservation goals between indigenous communities, local peoples and other practitioners, informed by best practices for considering traditional knowledges?
 - Developed models for engagement of tribal membership and traditional practitioners of TEK?
 - Applied protocols to ensure protection of TEK and strategies?

Criterion 4 (Priority topics): The priority topics described in the strategy reflect the most appropriate topics the LCC should address in the mid-term.

- Do the identified priority topics encompass the range of topics related to S-TEK the LCC should address?
- Is the organization of priority topics the best suited for determining focal topics and reaching LCC goals and objectives?

Criterion 5 (Implementation): The S-TEK strategy provides a successful framework for achieving Criteria 1-3.

- Has the development of focal topics lead to science, TEK projects and LCC activities that are successful in achieving LCC goals and objectives?
- Has the process of determining project support worked to successfully achieve LCC goals and objectives?
- Has the process of determining annual LCC activities related to science and TEK worked to successfully achieve LCC goals and objectives?

Additional metrics for tracking and reporting

The LCC will compile and report additional metrics for activities to reflect plan performance, allow for year-over-year comparison, and to enable plan adaptation. Metrics will be determined per activity and incorporated in project solicitations, work plans, and interim and final project reports. Potential metrics may include, but are not limited to the following:

- Number of participants engaged

Implementation (continued)

- Partner organizations (Tribes, non-tribal government agencies, NGOs, academic institutions, private organizations and industry groups)
- Investment leveraged (match)
- Communication pieces created (websites, maps, outreach materials, etc.)
- Events/training held
- Decision support tools created and in use
- Conservation/restoration tools, methods and techniques created/tested or in use, and area of coverage

Project reporting

The LCC will require an interim and final report for each project supported. Additional reports may be required as needed to ensure projects are proceeding as anticipated. Interim reports are for the purposes of compiling information for reporting LCC activities, to ensure projects are progressing as expected, and to identify any needed support or guidance in carrying out the project. The Science Coordinator will determine the timing of interim evaluations for each project with input from the Principal Investigator. Interim evaluations may include a written questionnaire and brief report as well as a presentation by the Principal Investigator to a panel of topic-area experts assembled by the Science Coordinator. Final project reports will include an update to the written questionnaire and the final project report.

Mechanism for updating the strategic plan

The S-TEK working group will review and propose adjustments to the strategic plan after year one (2016). Another review will commence following the third year (2018) at which time the S-TEK working group will recommend to the Steering Committee if a new strategic planning effort will commence at that time, or if adjustments should be made to this strategic plan. If adjusted, the strategic plan is projected to remain in effect to guide S-TEK activities through 2019.