## Responses regarding performance metrics

Preamble: Elements of success include both tangible (products, funding, actions with direct links etc…) and intangible components (the synergy of the partnership to foster ideas and relationships which may lead to changes in actions by participating collaborators etc…). Our response to this request for information on performance measures, and about project funding patterns, places the emphasis of success more on the measures that are tangible and directly tied to LCC action, but does not appropriately capture the value of a broad partnership. This should be a topic of conversation with the NAS panel.

***“Is the benefit to the states from LCCs measured? If so, how?”***

This is an interesting question because, as a partnership, there has been no formal request to track relationships with any particular partner combination within an LCC. While the states are critical members of the LCC partnerships, the LCC staff, sometimes state employees themselves, do not single the states out in performance measures. Nevertheless, it is true that more attention is paid to foster the state relationships within LCCs than perhaps any other “category” of partners.

We can measure benefit to the states (and all partners) through participation in all levels of the LCC Network including individual Steering Committees, LCC Science or Work Groups, and participation in LCC Network and LCC Council activities. State agencies are involved in all LCCs. State representatives, usually at the State Director or Deputy Director Roles, currently hold Chair or Vice-Chair roles on 14 LCCs and have recently rotated out of those roles on at least two others. Participating in the LCC governance and in science workshops etc. afford states the opportunity to articulate their science needs and help the LCCs formulate a science agenda that is beneficial to state resource management.

Additionally, we can measure benefit to states by their participation in LCC sponsored projects. Since 2010, states have been the recipient and primary partner on 50 projects and/or activities totaling over six million dollars. As participants in individual LCCs and the LCC Network, states have helped to establish the LCC goals and objectives and many of the LCC efforts should have direct and indirect benefits to the participating states. For example, in the Southern Rockies LCC while four projects have LCC funding that went directly to the states, there are 13 projects that are directly beneficial to management of a state wildlife agency trust resource (~ $730,000 SRLCC funds). These projects also have state agencies contributing cash and/or in-kind contribution (~ $400,000 cash from states). Additionally they have supported 14 projects that are directly related to management of water resources and of value to state water management agencies (~ $1.5M). Again, state water resource agencies and state universities are contributing cash and/or in-kind support to these projects as well (~ $890,000).

Some examples of LCC projects from the Southern Rockies LCC that are directly applicable/beneficial to states include: supporting western states’ Crucial Habitat Assessment Tools; completing digitization of National Wetland Inventory data across western Colorado; supporting water needs assessments in the Middle Rio Grande; development of fish databases in CO and AZ; Vulnerability Assessment for Gunnison Sage Grouse; Landscape Conservation Design for management of sage-steppe habitat in the Green River Basin; supporting UT State Wildlife Action Plan and the UT Watershed Restoration Initiative through data analysis, and Habitat Connectivity in the Four Corners Region of CO, UT, AZ, NM.

OBSTACLES TO MEASURING AND SUPPORTING STATES

In understanding how LCCs benefit State agencies, it is particularly important to understand the underlying dynamic and inter-relationship between Federal and State agencies, particularly in the western US. First, it is important to understand that there is an undercurrent of anti-Federal sentiment in our current culture of natural resource management. Regardless of merit or circumstance, certain programs, particularly those related to specific state jurisdictions, such as wildlife management, or those that may be perceived to affect or limit state commerce through Federal regulation such as energy development, land access or other, are fundamentally opposed by a number of western state governments. This may be due to real, perceived or primarily partisan issues. Given this state of affairs, LCCs have not been supported, and in some cases have been actively opposed, by a number of western states.

For example, the Great Northern LCC has had significant engagement and participation by the State of Washington and next to none by the State of Oregon which openly stated opposition at the onset in FY10. States of Idaho, Montana and Wyoming have been engaged in the Great Northern LCC at varying levels over the past five years and in general are viewed as very important and engaged partners at the staff level. However, due to the politics and perceptions of Federal over-reach or misguided funding priorities (real or otherwise), we cannot expect or depend on supportive language or action for GNLCC to be expressed or promoted at the Director’s or Governor’s level among any states with the possible exception of Washington. Similarly, the State of Alaska has chosen to participate in three of the five LCCs that span Alaska. That said the LCCs strive to work constructively with all partners and the LCCs can provide a forum for discussion among participating partners that may not be possible in one-on-one agency dialog.

***“Does the LCC Network (do the LCCs) have a strategy for measuring effectiveness (outcomes)? If so, what metrics have been/will be collected and used?”***

***“Does the LCC Network (do the LCCs) have a strategy for measuring impacts? If so, what metrics have been/will be collected and used?”***

Our response to these two questions has been combined for “outcomes” and “impacts” because the systems that are in place are largely the same for both. Where appropriate we have identified how different measures or strategies may fit into the definitions of outcomes and impacts as defined by the National Academy of Sciences. During these formative first four years of the LCCs and LCC Network, much of the emphasis has been placed on meeting Process, Input and Output measures. With the maturation of the LCCs and the LCC Network, more emphasis is now being placed on Outcomes and Impacts, though much of the focus is still on Output measures. Projects that produce the level of results necessary to support the Outcome Metrics generally take several years to complete. Most LCCs have been funding projects for three years or less, and many LCCs are just now beginning to see or will soon see the products produced by their earliest funded projects so outcomes are not yet available for most projects.

**LCC Network Performance Measures/Tracking**

The LCC Network includes all 22 individual LCCs as well as activities of the LCC Council and through the LCC Network Coordinator and staff in the Service’s Washington office. Performance measure tracking systems are in place through the US Fish & Wildlife Service (Service) as the primary investor in LCCs. These systems incorporate results from all 22 of the LCCs but primarily represent the Service’s investment and goals and not the full range of goals that may be held by the broader LCC partnerships.

Department of Interior and U.S. Fish & Wildlife Service - Science Applications Performance Measures. In accordance with accomplishment reporting requirements of Circular A-11 and the Government Performance Management Act (GPRA), the Service establishes performance measures and tracks results from its programs. The Service works with the Office of Management and Budget (OMB) to change the performance measures and is currently in transition between two sets of reporting measures. Through FY14 the LCCs reported on three measures in Landscape Conservation and six measures under Adaptive Science (see the “Annual Targets” in Attachment A). These nine measures were predominately focused on Output and Outcome metrics. At the beginning of each fiscal year the LCC Coordinators would estimate how many projects they were likely to initiate or complete for each of the categories. These estimates were then verified, and corrected if necessary, at the end of the fiscal year.

In FY15 the nine performance measures are being replaced by two new GPRA measures to be reported on by the Office of Science Applications within each Region. The new measures are:

1. The number of LCDs available to inform management decisions.
2. Number of landscapes with surrogate species identified to support conservation actions.

Attachment A also shows two priority goals for DOI that are specific to LCCs.

U.S. Fish & Wildlife Service - Science Investment and Accountability Schedule (SIAS)

“The Science Investment and Accountability Schedule (SIAS) has been developed by the Service for two substantial purposes: (1) to express the Services’ vision for, and to inform the Service’s investment in, the suite of activities, actions, and outcomes that an LCC would accomplish as it develops as a collaborative conservation forum and (2) to help respond to Congressional direction that “the Service establish clear goals, objectives, and measurable outcomes for LCCs that can be used as benchmarks of success of the program.” As such, SIAS is not expected to reflect the total suite of roles with which any individual LCC may be involved as part of meeting the needs of other partners.” See Appendix B.

The SIAS is an LCC performance and accountability tool that articulates expectations (along with associated benchmarks and metrics) from the FWS regarding both the (1) *organizational, process, and input steps* that an LCC should undergo to develop into a successful conservation partnership as well as the (2) *outputs (science, information, tools) and outcomes* *(shared vision among partners)* that an LCC should influence or produce.

An assessment using the SIAS tool is conducted annually by each of the 22 LCCs. Using the SIAS, each LCC reports on the following metrics. (Please see the attached “SIAS 2.0” document for a more complete description of the 8 Conservation Activity Areas, the 22 Benchmarks, and the 22 Metrics):

1. Organizational Operations
	1. 1.A - Engagement and Coordination
	2. 1.B - Leveraging Resources
	3. 1.C - Evaluating Progress
	4. 1.D - Engaged Technical Community and Dedicated Technical Staff
2. Landscape Conservation Planning Foundation
	1. 2.A - Assess Existing Conservation Efforts
	2. 2.B - Identify Priority Resources
	3. 2.C - Collate and Establish Conservation Goals and Measurable Objectives
	4. 2.D -Refining Landscape Conservation Planning Foundation -
3. Landscape Conservation Design
	1. 3.A - Vulnerability and Landscape Assessments
	2. 3.B -Adaptation Strategies
	3. 3.C - Integration of Multiple Priority Resources and Associated Measurable Objectives into Landscape Conservation Designs
4. Informing Conservation Delivery
	1. 4.A - Provide Decision Support
	2. 4.B - Information Delivery
	3. 4.C - Assessment of Information Delivery
	4. 4.D - Collaborative conservation delivery to realize resource objectives
5. Decision-based Monitoring
	1. 5.A - Collaborative Monitoring
	2. 5.B - Monitoring Change of the Landscape and Priority Resources
6. Research to Support Adaptive Management
	1. 6.A - Testing Underlying Assumptions
7. Data Management and Integration
	1. 7.A - Data Management and Integration
8. LCC Network Function
	1. 8.A – Participation in the LCC Network Enterprise
	2. 8.B - Function as Part of Integrated Network of LCC Partnerships

To achieve the landscape-scale conservation outcomes that are articulated in the LCC Network Vision the conservation community needs new scientific information and tools and new methods and forums for collaboration and co-governance (among scientist and resource managers, among government agencies, and among government and non-government sectors). The metrics promoted by the SIAS are intended to build the foundation and capacity for enabling the LCC partnerships to define, design, and help partners collectively achieve shared conservation impacts.

The FWS strategy for measuring impacts is imbedded within the SIAS tool, which incentivizes the development by individual LCCs of processes and metrics for achieving and measuring impacts. For example, because of the SIAS tool, each LCC is working to establish conservation goals and measurable objectives and to monitor change of the landscape and their priority resources. The identification of the specific priority resources and metrics is not prescribed by the SIAS tool but rather is being developed by the individual LCC partnerships.

**Performance Tracking at the Individual LCC level**

Each LCC has multiple levels and systems for tracking performance and progress towards meeting its goals. LCCs that started in 2010 often took the lead on developing tools that have been adopted by other LCCs, but because each LCC is a self-directed partnership with self-identified goals and there were no “off-the-shelf” performance measure systems available, the LCCs tend to have different approaches. This section describes the common measures that are utilized by many, if not all, LCCs though their actual metrics and methodology may differ. The first three categories, Project level, Outreach and Participation, are all within the direct control of the LCC because the response is directly tied to an LCC Action. The ability of an LCC to track the Outcomes or Impacts to its actions beyond those directly connected to LCC actions is less obvious. As with the Service’s SIAS measures described previously, LCCs are determining how to capture these synergistic benefits of LCC participation in a meaningful manner. The final three categories, ‘Synchronization of Activities’, some ‘Outcomes’ and ‘Impacts’, describe some examples of the types of benefits that LCCs are documenting that are beyond their direct control but within their sphere of influence. Most LCC strategic plans include information about their evolving strategies for measuring performance.

Project level: All grants and agreements include milestones and reporting requirements. Some LCCs have adopted Project Tracking Systems that record metadata about the project, track progress on achieving milestones, and track the location and archiving of completed data and products. Some examples of these include the Arctic LCC’s [Project Tracking System](http://arcticlcc.org/projects/management/project-tracking-system) and the Great Northern LCC’s Landscape Conservation Management Analysis Portal ([LCMAP](http://greatnorthernlcc.org/lcmap)). Both of these systems have been adopted by some of the other LCCs within the Network. All of the LCCs have a method of tracking their sponsored projects and products.

Outreach: During their formative years the LCCs expended considerable energy on basic outreach activities to tell the public and potential partners about the LCC vision and early activities. All the LCCs established webpages and most have mailing lists to distribute newsletters or updates to throughout the year. Some LCCs have developed strong community dialog groups either using a blog format through their website (see [South Atlantic LCC](http://www.southatlanticlcc.org/)) or through science forums (see Appalachian LCC), and some have used social media to spread the news about their work and conservation issues. Quantitative metrics are available for many of these outreach tools though the decision to collect these data would be up to the LCC Steering Committee. The ‘Impact’ of these direct measures is harder to understand or quantify.

Participation: Another metric that is easily tracked is participation in LCC activities. How many people attend a workshop, open a newsletter, respond to a request for information or call for proposals are all metrics that are within control of an LCC to track. Participation may also take the form of contributing to the cost of running an LCC or a specific LCC activity.

Synchronization of activities: By working in a collaborative forum, the LCCs can influence how participating entities implement their programs as they see opportunities to improve effectiveness or efficiencies by co-locating or coinciding their efforts. Examples of this include (*need examples – mine would be from NFHP and Refuge I&M putting funding and projects in place to complement the LCC work on water temperature monitoring or vice versus*) the funding for these efforts never mingle but collectively they are building and sustaining momentum towards addressing an important conservation need. Documentation of these collaborations is inconsistent and depends on being recognized during dialog between someone involved closely with the LCC (staff/Steering Committee members/PIs etc.) and the right person within the participating partner’s program.

Outcomes: As LCC sponsored products are made available and more decision makers are made aware of new tools and information, there is growing evidence of the products being used as platforms for additional work by partner agencies or from others expanding the work on the same topic. Evidence that agencies and task forces are using LCC products to inform their decisions are becoming more common while some LCC sponsored projects have been pivotal in stimulating corresponding or follow-up work by participating partners. There is no formal mechanism to know when this has occurred so word of mouth, and queries through Steering Committee members are typical approaches to identify examples.

Impacts: LCCs are beginning to influence policy and conservation impacts on the ground in a number of ways. They were recently called upon in the President’s Priority Agenda for Climate Change to help identify flagship areas in which to focus conservation efforts. In addition numerous examples of contributions of LCCs to implementation of the National Fish, Wildlife, and Plants Climate Adaptation Strategy were highlighted in the “Taking Action: A Progress Report” in September 2014. <http://www.wildlifeadaptationstrategy.gov/pdf/Taking-Action-progress-report-2014.pdf>

An example from an LCC with a well-developed performance measure strategy is from the Great Northern LCC (GNLCC). The GNLCC Science Plan explicitly defines how ecological metrics will be co-developed and measured to estimate GNLCC conservation impact *including benefits to state, tribal and federal partners*. The Science Plan calls for: adoption or development of quantifiable objectives for each of the 30 priority conservation targets, a systematic measure of conservation activity effectiveness, and creation of a Landscape Integrity Index (LII), a landscape-scale metric of ecological integrity.

For conservation targets, GNLCC partners will identify existing quantifiable objectives (i.e., population objectives for game species, recovery goals for T&E) or coordinate objective development, through GNLCC Partner Forums, where none exist. Target-specific objectives are used as measures of conservation effectiveness. In each case – where quantifiable objectives are or are not available – GNLCC staff, the Advisory Team and Forum participants will vet and evaluate how best to roll up objectives to landscape scales and how we, collectively, should monitor resources to accurately measure trend and conservation impact. GNLCC has identified species, habitat, and ecosystem process conservation targets. Species metrics will include abundance and performance indicators. Metrics for habitat targets will include spatially explicit (i.e., patch size, total area) ecological integrity (structure, function) measures, where available. Some ecosystem processes (i.e., fire regime) will also be measured remotely (image analysis) but others (i.e., forest pathogens) are harder to measure. The Science Plan acknowledges this and calls on the collective expertise in the Science Community and Partner Forums to devise techniques to estimate objectives and quantify and measure trend.

In parallel, the Science Plan describes a technique to estimate the impact of existing (ongoing) management activity in terms of fine-filter conservation targets. Using a conservation triage approach, GNLCC will evaluate the relative benefit of multiple management strategies on individual and multiple targets. The efficiency metric includes probability of success and relative value (e.g., # targets benefited) offset by implementation cost:



These metrics will establish “baseline” values against which we can begin to accurately measure effectiveness of science-based conservation action in out years. Benefits to states and other partners are immediate (rapid estimate of cost effectiveness) and strategic (initiation of experimental approach). We expect initial measure will tend toward qualitative estimates. As we collectively refine the technique we will improve and quantify effectiveness estimates.

As a broad measure of progress, GNLCC is developing a Landscape Integrity Index that integrates well-established (scientifically adopted and peer-reviewed) indicators of ecological integrity with landscape-scale stressor (land use, climate, and invasive species) data and models. The Index employs high-speed computing and inter-organizational data sharing to measure status and trend across vast geographies. Using GNLCCs landscape goals as initial measures of desired condition, subsequent modeling runs will evaluate outcomes of GNLCC and partnership-based conservation planning and action.

In combination, the partner-developed quantifiable objectives and desired condition establish goals against which outcomes are measured. Spatial and temporal scaling (fine and coarse filtering) encompass a range of impacts (e.g., collective site-based management activities). And multiple metrics provide a balanced approach to measuring LCC effectiveness and promote buy in and collaboration from diverse partners across the large landscape.

**Attachment A:**

**cience Applications**

**FY 2014-2015 Performance Measures**

|  |  |  |
| --- | --- | --- |
| **Priority Goals** | New FY 2014 |  |
| ***DOI Strategy 1:*** *Mainstream and integrate climate change adaptation into both agency-wide and regional planning efforts, in coordination with other Federal agencies as well as state and local partners, Tribal governments and private stakeholders.***FWS Activity:** Develop shared Climate Change adaptation goals and then Climate Change resilient landscape designs utilizing LCCs. | Reported by email to Kevin O’Brien | Elsa |
| ***DOI Strategy 2:*** *Ensure agency principals demonstrate commitment to adaptation efforts through internal communications and policies.***FWS Activity:** Update 6 Climate Change Policies. | Reported by email to Kevin O’Brien | Mark |
| **GPRA Measures** | New FY 2015 |  |
| 1.The number of LCDs available to inform management decisions. | PTRAC | ARDs |
| 2.Number of landscapes with surrogate species identified to support conservation actions. | PTRAC | ARDs |
| **Annual Targets (Green Book)** | FY 2014 final year |  |
| CL.2.1.4 Number of decision-support tools provided to conservation managers to inform management plans/decisions and ESA Recovery Plans. | PTRAC | LCCs |
| CL.2.1.5 Number of conservation delivery strategies and actions evaluated for effectiveness. | PTRAC | LCCs |
| CL.2.1.6 Number of landscape-scale conservation strategies developed that can direct management expenditures where they have the greatest effect and lowest relative cost. | PTRAC | LCCs |
| CL.3.1.1 Number of risk and vulnerability assessments developed or refined for priority species or areas. | PTRAC | LCCs |
| CL.3.1.2 Number of inventory and monitoring protocols developed, refined or adopted to capture data on priority species addressed in LCC work plans that are expected to be vulnerable to climate change. | PTRAC | LCCs |
| CL.3.1.3 Number of population and habitat assessments developed or refined to inform predictive models for changes in species populations and habitats as a result of climate change. | PTRAC | LCCs |
| CL.3.1.4 Number of biological planning and conservation design projects developed in response to climate change. | PTRAC | LCCs |
| CL.3.1.5 Number of management actions evaluated for effectiveness in response to climate change and research activities conducted to address information needs in response to climate change. | PTRAC | LCCs |
| CL.3.1.6 Number of conservation genetics projects to improve and enhance conservation design and delivery for fish and wildlife populations in response to climate change. | PTRAC | LCCs |