

**Landscape Conservation Cooperatives:
A Status Review for the U.S. Fish and Wildlife Service
March 2014**

1. Introduction

Four years have passed since the first Landscape Conservation Cooperatives (LCCs) were established. The U.S. Fish and Wildlife Service (FWS) Directorate has requested the Office of the Science Advisor to provide a FWS review on the status and progress of LCCs and the LCC network in anticipation of discussions at the April 2014, Directorate meeting. To inform the Directorate discussions, this review is, therefore, intended to be a high level summary of LCCs from a FWS perspective in relation to the LCCs' initial intended purpose, as well as their contributions to the mission of the FWS, its partners, and the future of fish and wildlife conservation. More recently, in the 2014 appropriations bill, Congress requested a National Academy of Sciences review of the LCCs, and so in the next two years a more comprehensive, inclusive review will be forthcoming.

To compile this review, the Office of the Science Advisor solicited a detailee from International Affairs who received and synthesized Regional input from Assistant Regional Directors (ARDs) for Science Applications and interviewed 11 Directorate members (5 Assistant Directors and 6 Regional Directors) and 38 "field staff" (27 Project Leaders and 11 Joint Ventures Coordinators). Most of the field staff interviewed had been engaged in LCCs through LCC steering or science/technical committees. Input into the review was intended to address LCC progress in:

- Facilitating on-the-ground strategic conservation at landscape scales;
- Forming collaborative partnerships that:
 1. develop shared conservation goals;
 2. satisfy shared science needs;
 3. set joint priorities and desired outcomes; and
 4. share resources, information, and data;
- Developing information and tools that impact conservation; and
- Functioning as a network.

2. Original Expectations and Changing Circumstances

- The FWS set out to establish a network of LCCs in 2009 to provide Regional and field technical capacity for climate change adaptation; most critically, the effort aimed to catalyze field-level capacity development for landscape-scale biological planning and conservation designⁱ.
- Later that year, Secretary of the Interior Salazar issued a Secretarial Orderⁱⁱ, directing all Interior bureaus and agencies to work towards development of the LCC network, with a focus on coordinating climate change adaptation efforts.
- In January, 2010, the FWS published "LCC Information Bulletin #1 – Form and Functionⁱⁱⁱ," to provide a framework for establishing the LCC network. The bulletin included a number of guiding principles for LCCs. It referred to LCCs as, ". . . applied conservation science partnerships focused on a defined geographic area that inform on-the-ground strategic conservation efforts at landscape scales."
- Different guidance from FWS/Department of the Interior (DOI) leadership at varying times has altered LCC priorities (i.e., vulnerability assessments, surrogate species) over time.
- The evolving model of LCCs, from the original FWS-based concept to a more broadly-based natural and cultural resource collaborative/adaptive-based model, has promoted engagement across a large

spectrum of partners, including various Federal and State government agencies, academia, and private and non-governmental interests.

3. Directorate Expectations for LCCs and the LCC Network

Expectations for LCCs vary across the Directorate; however, all expectations fall within the broad guiding principles established by “LCC Information Bulletin #1 – Form and Function.” These expectations include:

- LCCs will be a highly engaged, high functioning, seamless network of partnerships that produce tools that are useful and necessary to help folks on the ground do work in a more effective, smart way. This will happen at different rates in the evolution of LCCs.
- LCCs will address science needs of on-the-ground managers, specifically FWS and other partners; they will answer questions involving issues within the landscapes so managers can make decisions on managing lands and so we get the best return of those dollars used to answer those questions.
- LCCs are the premier vehicle for collaborative, shared science planning in the ecosystem, bird conservation region, or other area delineation. We’re all facing a new game changer, climate change, and are all operating under limited funding; we can share information and use it in our conservation delivery.
- LCCs will serve as a forum for a broader community of conservation players and science agencies to work together to develop shared priorities and set biological objectives; they will serve as a forum to try to accomplish those goals in a more directed, coordinated effort.
- LCCs are a cross-programmatic effort – Programs with Ecological Services (ES), Refuges, Fish passage, all have things within their mandates, and the intent is to look at larger landscapes and hone priorities down to get a lot more work done. This also allows us to work with our partners (Canada) on a much larger landscape basis. The idea is to do our work on a landscape basis and do it smarter, looking at biological outcomes, getting to priorities, working with partners, and making sure programs are tied in to doing that.
- We are using LCCs to make sure we’re working with partners, identifying research needs on landscapes that are important, linking landscape design to the interest in surrogate species, and helping define what we want to focus our resources on.
- LCCs will provide the science-based planning and conservation design that will support conservation delivery by FWS programs or partners.
- LCCs serve as a forum for science and collaboration to bring all the partners together, not just the traditional (e.g., even private landowners), to define the conservation landscape of the future; LCCs will help coordinate all the science to do that.
- We will gain knowledge and lessons learned from implementation of LCCs and export that knowledge to other countries as lessons learned. It’s a means of information exchange – to establish priorities within an LCC and fill gaps abroad/across borders.

4. Facilitating strategic conservation at landscape scales

- LCCs are making good progress identifying shared priorities for landscape conservation.
 - Numerous LCCs such as the North Atlantic and Peninsular Florida LCCs are developing conservation designs to provide support for conservation decisions.
 - The Great Northern and Southern Rockies LCCs have agreed on species, habitat, and ecosystem process conservation targets and priority resources.
 - Eastern Tallgrass Prairie and Big Rivers LCC has focused on large, multi-LCC landscape issues, such as hypoxia effects on fish and wildlife resources.
- There are a number of factors affecting progress and pace:
 - In landscapes where multi-partner collaboration was already occurring, LCC partnerships and their priorities have been established more quickly.
 - Large initial allocations (>\$2 M) coupled with little planning led some LCCs to focus on funding diverse science projects. With more network coordination and evolution, all LCCs are narrowing their focus through priority setting.

5. Forming collaborative partnerships

- LCC participants are increasingly bringing expertise and capacity to the table (funds, in-kind services, data, scientific capacity, etc.).
 - The North Pacific LCC, among others, is engaging Tribes and exploring how to use Traditional Ecological Knowledge to: help understand how the environment is changing; plan for and adapt to climate-driven change; and focus attention on important cultural and natural resources.
 - The Desert LCC is leveraging work and expertise of Arizona's Water Resources and Research Center, The Nature Conservancy (TNC), and the Bureau of Reclamation to evaluate environmental flow recommendations and management options that can increase ecosystem and species resiliency to climate change.
 - The Upper Midwest and Great Lakes (UMGL) LCC is working with the Great Lakes Fishery Commission and TNC to coordinate aquatic connectivity efforts. UMGL first year funding of \$1 million originated from Environmental Protection Agency's (EPA) Great Lakes Restoration Initiative. As a FWS allocation initiated in the second year, EPA augmented with \$500,000.
- For project funding to date, partners have contributed an average of about 60 cents for every dollar spent by FWS.

Views from Field Staff Interviewed: LCC Progress

- Most LCCs are making progress in:
 - Facilitating on-the ground strategic conservation efforts at landscape scales;
 - Setting joint priorities through partnerships; and
 - Meeting shared science needs through partnerships;
 - Sharing resources, science, and/or information.
- About half of the LCCs have developed shared conservation goals.

Views from Field Staff Interviewed: Factors that facilitate LCC Progress

1. Filling large information gaps to achieve value added (e.g., PICCC focus on climate change).
2. An early focus on collaborative conservation planning, versus an early focus on project identification and management.
3. Partners identifying areas of common need, which directs them to a common purpose for collaboration.
4. Supporting partnerships and funding priority projects that were already established and underway.
5. Collaborative relationships with the States and other Federal agencies.

- More than 250 organizations have been involved in LCCs:
 - all 50 State natural resource agencies;
 - all major U.S. Federal resource management and conservation agencies;
 - more than 20 individual Tribes;
 - more than 40 non-governmental organizations;
 - representatives from Mexican and Canadian agencies (including representatives from 5 Provincial/Territorial Canadian agencies); and
 - a variety of academic institutions, industry, and private landowners.
- Challenges remain. Across the steering and technical committees, many organizations fully participate; others attend meetings to observe, while others seek funding.
- LCCs were initially focused on establishing partnerships outside of the FWS, which limited FWS employee involvement. Based on the field staff interviews, FWS field staff desire to provide more input into LCC priority-setting and wish to receive more feedback on the progress of LCCs. Recent efforts have been made in some Regions to improve internal engagement; however, there has not been a nationwide systematic effort to work through FWS programs for input, and communication barriers still exist. Many FWS field staff believe:
 - LCCs should provide for FWS-specific science needs.
 - LCCs are not the best use of limited FWS funding; providing more funding to FWS mission programs instead of LCCs would be a better conservation investment.
 - Reductions in other programs were caused by LCCs.
 - LCCs are redundant; FWS already works through partnerships.
 - LCCs are too big of a time investment for the small benefits received.
- However, during the interviews of FWS field staff, several positive themes also emerged:
 - LCCs have increased collaboration opportunities and broadened partnership networks (e.g., Northwest Boreal LCC facilitated collaboration between a National Wildlife Refuge and the Bureau of Land Management (BLM), resulting in an agreement to zone BLM lands adjacent to the refuge for non-extractive activities).
 - LCCs are working to answer long-term questions that are not otherwise being addressed (e.g., Arctic LCC is providing the science to answer long-term questions necessary for maintaining intact, functioning landscapes).
 - LCCs are supporting FWS mission programs by funding development of tools to guide conservation delivery (e.g., the Gulf Coast Prairie LCC funded development of

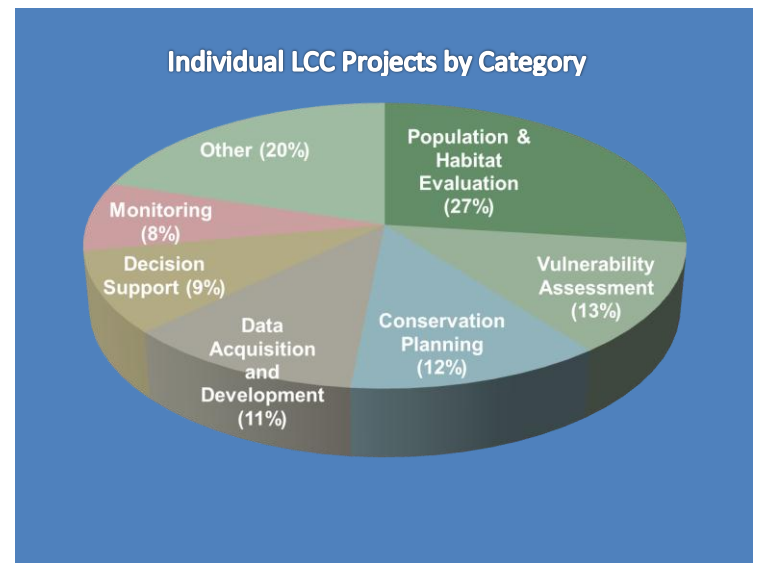
**Views from Field Staff
Interviewed:
Challenges to Progress**

1. Open RFPs, rather than strategic, targeted RFPs.
2. Spreading funding for individual projects over large, complex geographies, rather than funding efforts connected to a larger shared vision.
3. Choosing projects by consensus, thereby advancing low-priority projects that not any one agency would choose on its own.
4. Steering committee having Federal agencies with different missions.
5. Choosing areas of focus that compete with other established partnerships, resulting in redundancy and partner fatigue.
6. FWS staff confusion over roles and responsibilities of LCCs as compared to field stations' roles and responsibilities.
7. Having to implement top-down priorities and mandates, rather than building self-directed partnerships.
8. Difficulty getting buy-in from the States.
9. High initial funding, which brings partners to the table for money and discourages leveraging.
9. Making LCC data/products understandable and accessible for on-the-ground use.
10. Large steering committees, making it hard to focus.

- a decision support tool to guide habitat conservation for Western Gulf Coast mottled ducks).
- LCCs have brought international collaboration to projects, which would not have occurred otherwise (e.g., Desert LCC brought international participation to the Desert Managers Group).
- LCCs have facilitated large-scale landscape conservation efforts through multi-LCC funding (e.g., four LCCs are involved in the inter-LCC greater sage-grouse initiative, funding projects to support sage-grouse conservation efforts).
- LCCs have produced "game changing" products (e.g., the Pacific Islands Climate Change Cooperative (PICCC) has produced regional climate models that are used to guide species recovery decisions).

6. Developing information and tools that impact conservation

- A wide range of LCC products are being developed and are starting to be used on the ground.
 - The five LCCs in Alaska, along with Fish Habitat Partnerships and other partners, are working to update the 50-year-old Alaska National Hydrography Dataset for the State to improve monitoring and future modeling of habitat.
 - The Gulf Coast Prairie LCC and the other Gulf LCCs are developing the Conservation Planning Atlas and the Gulf Coast Vulnerability Assessment as foundational to “sustainable landscapes.”
 - The Appalachian LCC, among other LCCs, is compiling vulnerability assessments on species and habitats which will lay critical groundwork for addressing climate change associated impacts on natural resources.
 - The California LCC, working with three Joint Ventures in California, developed a monitoring protocol for assessing shorebird population response to climate change across the Pacific Coast.
- LCCs are working to ensure products are appropriately scaled and accessible so that they can be used to inform conservation delivery.
- LCCs are using a wide range of communication tools to help products reach target audiences.



7. Functioning as a network

- Individual LCCs were initially expected to establish steering committees and build trust necessary to identify shared needs and priorities. Once that was achieved, LCCs individually and collectively were able to focus more on developing a network vision and supporting multi-LCC initiatives. LCCs are unique in their geographies and ecosystems, topics of focus, and partnerships.
- However, the LCC network has agreed to a shared vision, mission, and guiding principles.
- A National Council has recently been established to help the LCC partnerships form a seamless network that achieves this shared vision.

LCC Network Vision:

Landscapes capable of sustaining natural and cultural resources for current and future generations.

Network Mission:

A network of cooperatives depends on LCCs to:

- *Develop and provide integrated science-based information about the implications of climate change and other stressors for the sustainability of natural and cultural resources;*
- *Develop shared, landscape-level, conservation objectives and inform conservation strategies that are based on a shared scientific understanding about the landscape, including the implications of current and future environmental stressors;*
- *Facilitate the exchange of applied science in the implementation of conservation strategies and products developed by the Cooperative or their partners;*
- *Monitor and evaluate the effectiveness of LCC conservation strategies in meeting shared objectives;*
- *Develop appropriate linkages that connect LCCs to ensure an effective network.*

8. Author's Final Thoughts

The scope of this review did not involve a cost-benefit analysis of LCCs, nor did it involve an evaluation of LCCs on a case-by-case basis. Based on information I've received over the 30-day detail and as a person who has not previously been involved in LCCs, I have formed the following perceptions about LCCs in response to four key questions:

1. Are LCCs focusing on what is most important in terms of conservation outcomes, or are we spending money with little focus?

Growing pains were felt early on, but it appears that the network has turned the corner and is now generally following a strategic approach to advancing on-the-ground-conservation at landscape scales.

2. Do LCCs have effective partnerships measured by engagement, shared vision, leveraging, etc.?

There is a great deal of variety across the network concerning the progress in developing effective partnerships. Some LCCs have been successful, while others are struggling.

3. Are LCCs producing information and tools necessary to achieve desired conservation outcomes?

They are starting to – some products are now being used on-the-ground, and a greater number of products are on the cusp of being ready for use.

4. Are LCCs functioning as a network or just autonomous entities with different purposes?

LCCs are strongly evolving into a network; however, there will always be a tension between functioning as a network and individual LCCs functioning by definition as "self-directed" partnerships.

ⁱ U.S. Fish and Wildlife Service. December 2008. Rising to the Urgent Challenges of a Changing Climate System: If Not Now, When? If Not Us, Who? Fiscal Year 2009 Climate Change Action Priorities.

ⁱⁱ Secretary of the Interior. September 2009. Order No. 3289. Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources.

ⁱⁱⁱ U.S. Fish and Wildlife Service. Office of the Science Advisor. January 2010. LCC Information Bulletin #1, Form and Function.