DRAFT

FWS Science Investment and Accountability Schedule
Commitment in Support of a National Landscape Conservation Cooperative Network
FY 2013 – 20xx

Complex and persistent challenges have led the Fish and Wildlife Service (FWS) to re-assess how best to pursue the FWS mission. Our response, as well as that of the larger conservation community, focuses on improved levels of collaboration that enable a region's private, state, federal, and tribal conservation infrastructure to operate as a networked, leveraged system. Specifically, within any given ecological region, entities comprising the private, state, federal, and tribal conservation infrastructure must interact as a system if they are to expect system-level impacts. Organizations and agencies recognize the need for "functional connectivity" and are developing ways to integrate their otherwise independent capacity for conservation planning and design, conservation delivery, as well as monitoring and evaluation. They acknowledge that the goals and objectives expressed at landscape scales exceed the singular grasp of any one organization. In recognition of the importance of these emerging themes in conservation, the FWS has committed to:

- Connecting explicit and strategic goals to budgets by collaboratively developing conservation targets that link biological objectives for fish, wildlife, and plants and other natural resources to landscape and habitat conditions necessary to sustain species at desired levels;

- Leveraging assets in ways that support the health of the "conservation partner ecosystem";

- Pursuing conservation at landscape scales as a science-based, socially-driven endeavor;

- Remaining transparent and accountable to our work by communicating outcomes and results of investments based on conservation goals and measurable objectives.

- Acknowledging the uncertainties in alternative landscape conditions by using an adaptive management framework where learning is an explicit objective of management; and

- Integrating our work with partners to effectively achieve conservation results expected by the public.

The FWS Science Investment and Accountability Schedule (SIAS) will address our contribution and developing role with the National Landscape Conservation Cooperative (LCC) Network. Keeping in mind our agency's mission and our vision for science, the following fiscal and accountability measures will help ensure that our investment and participation with the network remains efficient and effective; and supports the following Vision and Mission of the Network.

LCC Network Vision: Landscapes capable of sustaining natural and cultural resources for current and future generations.

LCC 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.

SIAS is comprised of nine interrelated Conservation Activity Areas and associated benchmarks that are guided by the Strategic Habitat Conservation (SHC) framework. SHC was adopted by the FWS and USGS in 2006 to improve where and how to deliver conservation most efficiently to pursue specific biological outcomes. Implementation of SHC incorporates elements of the conservation enterprise in an iterative process of adaptive management, including: biological planning, conservation design, delivery of conservation actions, and decision-based monitoring, and assumption-driven research.

Activity Area 1 **Organizational Operations** – Addresses fundamental organizational and administrative components necessary to establish and maintain a LCC as part of the National Network.

Activity Area 2 **Landscape Conservation Planning Foundation** – Defines the foundation upon which an LCC builds an integrated landscape conservation planning, design, and delivery process.

Activity Area 3 **Landscape Conservation Design** – Integrates the biological, ecological, and cultural goals and objectives that support priority resources defined by an LCC.

Activity Area 4 **Informing Conservation Delivery** – Communicates and delivers science and technology products and tools for on-the-ground actions and decision making so as to influence current and future landscape conditions.

Activity Area 5 **Decision-based Monitoring** – Tracks status and trajectory of priority resources and changes in landscape conditions and conservation objectives.

Activity Area 6 **Assumption-driven Research** - Evaluates key uncertainties and assumptions through targeted research to help guide improvements for biological planning conservation design, delivery, inventory and monitoring, and operational evaluations.

Activity Area 7 **Data Management and Integration** – Facilitates information discovery, sharing, and collaboration.

Activity Area 8 **Science and Conservation Community Integration** - Engages with the key science consortia and conservation partnerships within the geography.

Activity Area 9 **Conservation Science and Adaptation Strategy** – Provides context and strategies for LCC actions and identifies processes for sharing information, knowledge, products, tools, and strategies that benefit the LCC Network's vision, mission, and guiding principles.

By Activity Area, the document identifies benchmarks that will help guide the allocation of funding appropriated by Congress to the Fish and Wildlife Service for Cooperative Landscape Conservation and Adaptive Science. Each benchmark reflects an expected progression of development and achievement for LCCs. Initially, they emphasize administrative activities that are essential for building the strong foundation every LCC needs to succeed in its conservation mission. Later, the benchmarks emphasize fish and wildlife activities that are integral components of every adaptive management framework and which enable LCC partners to produce the scientific knowledge and capacity, and conservation plans and strategies, needed to sustain fish and wildlife at landscape scales by accomplishing specific biological outcomes.

FWS Internal Peer Review of Self-assessment

Option 1: Each LCC's scorecard will be reviewed by a LCC Coordinator/Science Coordinator from a different FWS region. This could be done anonymously, but should also consider how to have open process to encourage dialog.

Option 2: Panels consisting of LCC Coordinators/Science Coordinators, Science Apps ARDs, and FWS Steering Committee Representatives will review and provide feedback on LCC scorecards.

Organizational Operations - Addresses fundamental organizational and administrative components necessary to establish and maintain a LCC as part of the National Network. The LCC consists of the Conservation Science Team (CST) providing direct staff support, Steering Committee Member (SCM) organizations, and science and technical teams. The CST and SCM actively engage other relevant individuals, organizations, and partnerships creating collaborative relationships with key decision makers who influence current and future landscape conditions. The CST maintains strong professional contacts and connections, networking to keep Cooperative members abreast of current conservation issues, techniques, etc. Also, the CST identifies partner capabilities to address the LCC mission and works with partners to address capacity gaps by adding key positions, relying on partner capacities, utilizing contracts, or by training appropriate to the size and complexity of the LCC geographic region. The LCC participates in development of common national LCC network messages to relevant state, regional, and national entities and cultivates informational relationships with its Congressional delegation and staff as appropriate.		
Activity Area Benchmarks	1- Minimally; not at all; none; 2- Somewhat; barely; fair; to a small degree; 3- Medium; moderately; average: 4- Mostly; largely; good; to a large degree: 5- Fully; completely; excellent; significantly:	Self-Assessment and Supporting Documentation (use separate sheet as necessary)
Engagement and Coordination – LCC CST and SCM are active in fostering strategic engagement and outreach to external audiences influencing landscape conservation decisions including state and federal agencies, Universities, NGOs, and partnerships (e.g., JVs, NFHPs, AFWA regions), and regional and local community planners.		
Leveraging Resources - Member agencies/organizations of the LCC contribute resources (e.g., staff, funding, tools) to fill science and technical capacity and information gaps necessary to achieve the LCC mission.		

Steering Committee - Steering Committee makes decisions toward achieving mission, and has established metrics and processes to measure success toward meeting goals and objectives.		
Engaged Technical Community and Dedicated Technical Staff - The LCC has organized technical capacity to improve the community's knowledge base and to address specific conservation information and science needs. The LCC has dedicated technical staff (e.g., science coordinator, geospatial technician, and other science expertise) as appropriate to the size and complexity of the LCC geography. The technical community for each LCC interacts and shares lessons learned, as appropriate, with other LCCs and the National Network.		
Participation in LCC network – CST and SCM participate in LCC Network activities including staff participation on national working groups, coordinator calls, document review and national meetings. Provide information and otherwise support briefing for decision makers (e.g., Congressional delegation).		

Landscape Conservation Planning Foundation – Defines the foundation upon which anLCC builds an integrated landscape conservation planning, design, and delivery process that informs the identification of priorities to target science and technology relevant to achieving the mission of the LCC and the LCC Network. Establishes the conservation science foundation of LCCs based on transparent replicable processes and procedures to identify priority biological, ecological, and cultural features and processes expressed as measurable conservation objectives at various spatial and temporal scales. To be successful, landscape conservation planning and priority setting is a dynamic and iterative process that acknowledges and anticipates change, particularly new threats, that require LCCs to assess conservation priorities over time.		
Establish Conservation Priorities - The LCC conducts systematic and transparent process(es) to determine biological, ecological and cultural conservation priorities relevant to achieving the mission of the LCC and supporting the LCC Network.		
Assess Existing Conservation Efforts - The LCC analyzes past and/or current large scale planning efforts and existing conservation priorities (e.g., those identified by JV, NFHP, Marine National Monuments management plans, State Wildlife Action Plans, etc.) within the LCC geography. Where applicable, the LCC helps integrates conservation priorities and design activity across partnerships to achieve LCC mission. Knowledge/information gaps to support existing efforts are identified.		

Collate and Establish Measurable Conservation Goals and Objectives - The LCC is using existing conservation goals and measurable objectives as appropriate or establishing new conservation goals and measurable objectives as needed for the identified priority resources. Goals and objectives are linked to the ability of current and future landscapes to support desired resource levels at appropriate spatial scales across an LCC geography.		
Refining Landscape Conservation Planning Foundation - The LCC partnership has developed a mechanism and timeline for updating conservation priorities and associated objectives, including revisiting the assumptions under which it bases its decisions relative to achieving the LCCs larger goals and objectives.		
Function as Part of Integrated Network of Self-directed LCC Partnerships - LCC identifies shared priorities with other LCC(s) and coordinates planning and priority setting activities as appropriate.		

Landscape Conservation Design – Involves the integration of biological, ecological, and cultural goals and objectives that support priority resources defined by the LCC and to support the mission of the LCC network. LCC members develop or assemble climate, land-cover, land-use, hydrological and other relevant data in spatially explicit contexts used to define and predict integrated landscape patterns to support biological, ecological, and cultural resource goals and objectives defined in previous activity area (planning foundations). Results of predicted integrated landscape design are used to establish conservation and adaptation strategies to help target conservation delivery based on landscape-scale assessments.		
Landscape Assessment - The LCC partnership conducts rigorous analyses, in light of current and expected future conditions, of the predicted capacity of landscapes within their geography to support the LCC's priority resources at objective levels.		
Risk and Vulnerability Assessment - LCC members are coordinating, supporting or conducting risk and vulnerability assessments specific to the LCC's priority resources and agreed upon conservation goals and objectives.		
Integration of Multiple Conservation Objectives into Landscape Conservation Design - The LCC is utilizing outputs from Planning Activity Area, landscape assessments, risk & vulnerability analyses to develop spatially-explicit conservation design that reflect landscape conditions to support biological, ecological, and cultural priorities of the LCC.		

Provide Decision Support - The LCC develops landscape conservation decision support information and tools to inform partners' conservation strategies relative to meeting LCC objectives for priority resources.		
Function as Part of Integrated Network of Self-directed LCC Partnerships - LCC identifies shared priorities with other LCC(s) and coordinates conservation design, as appropriate.		
Informing Conservation Delivery – Ensuring that science and technology are useful and used by decision makers influencing current and future landscape conditions. Many organizations participating as members of LCCs have extensive conservation delivery or related programs and efforts. LCCs develop tools and information to inform conservation delivery decisions now and in the future and ensure tools are relative to individual organization mission pursuits. These products are built with end users in mind, transferred and accessed with minimal impediment, and used in a manner that improves landscape conservation and efforts to reach common and shared priorities toward functional landscapes.		
Assessment of Information Delivery - The LCC develops user-specific effective delivery techniques to ensure that the products and tools are available for various decision makers influencing landscape conditions relevant to resource priorities and conservation objectives of the LCC.		
Decision-based Monitoring – Entails a collaborative monitoring approach to track and evaluate landscape change overtime relative to LCC conservation objectives for priority resources. LCCs utilizes existing monitoring infrastructure to develop collaborative monitoring networks among partners that efficiently track and evaluate status and trajectory of resource priorities and landscape condition change overtime.		

Collaborative Monitoring – Works with the Service's Refuge Inventory and Monitoring Program and other LCC member organizations with monitoring capacity to facilitate the development of a formal LCC collaborative monitoring community. Monitoring Community defines clear monitoring objectives, shared protocols, systematic processes, and time intervals of monitoring programs. The partnership utilizes and builds on existing monitoring programs and capacities (e.g., National Park Service, Forest Service, NOAA, state agencies).		
Tracking Priority Resource Status - The LCC tracks change in status of resource priorities relative to established conservation objectives at time-relevant intervals. Results are being used by decision makers to refine conservation and adaptation actions.		
Monitoring Landscape Change - The LCC is using existing or facilitates development of new technologies to measure and evaluate landscape change overtime relative to resource priorities and their respective conservation objectives.		

Function as Part of Integrated Network of Self-directed LCC Partnerships – The LCC coordinates with the LCC network to share and integrate (where appropriate) monitoring protocols, processes, and data to facilitate cross-LCC integration and expedite learning over space and time.		
Assumption-driven Research – Places conservation planning, conservation design, and conservation delivery in the adaptive management framework anticipated via SHC. Identified uncertainties and assumptions in the models used to develop conservation objectives are prioritized and targeted for research. This information and knowledge will guide improvements to the SHC processes of biological planning, conservation design, conservation delivery, inventory and monitoring, and operational evaluations.		
Testing Underlying Assumptions - The LCC has identified, prioritized, and targeted research that addresses key uncertainties and significant gaps in knowledge at the planning, design and monitoring steps for the LCC's priority resources.		
Keyfactor/Sensitivity Analyses – The LCC conducts or facilitates statistical analyses of key model parameters from planning foundations and conservation design to examine their relative influence on current or projected priority resources and conservation objectives of the LCC.		

Spatial Data Analyses – The LCC conducts or facilitates rigorous analyses of key spatial data uncertainties (e.g., classification errors) related to the use and application of spatial data used in planning and modeling. Errors are documented to facilitate refinement of geospatial datasets.		
Data Management and Integration - Facilitates formal mechanisms for information discovery, sharing, and collaboration. Guidance documents from the LCC Network Data Management Working Group call for individual LCCs to coordinate information management and delivery both internally (intra-LCC), and externally (inter-LCC) as many resource issues will cross existing LCC geographies. This Activity Area addresses whether the LCCs are coordinating across partners and linking activities to standards developed to function as a national network.		
Data Management Capacity - The LCC has identified how information management will occur among Cooperative members and the LCC Network.		
Ongoing Projects Actively Populating Shareable Systems - The LCC lead data management entity is facilitating the upload and use of identified systems following best practices and guidance from the LCC Network Data Management Working Group.		

Function as Part of Integrated Network of Self-directed LCC Partnerships - Actively ensures that LCC supported science, planning, data, tools, priorities, etc., are compatible and interoperable with other LCCs so that LCC products and activities can link to conservation objectives and at broader scales (e.g., continental and oceanic).		
Science and Conservation Community Integration – To be successful, an LCC must fully engage the key science consortia and conservation partnerships within the geography. For example, LCCs and Climate Science Centers (CSC) work together as CSCs provide research in support of priority climate science needs identified by LCCs. Other important LCC partners and partnerships include, USGS Cooperative Fish and Wildlife Research Units, Cooperative Ecosystem Studies Units, Migratory Bird Joint Ventures, National Fish Habitat Partnerships and others. This element relates to the level of cooperation between the LCCs and relevant partner organizations, the depth of involvement in shared planning and implementation, and the impact of cooperative science on resource management. LCCs must work closely with other conservation science activities to ensure efforts are coordinated and integrated.		
Climate Science Centers - LCC and CSC collaborate on priority setting and research activities, interact regularly, and exchange and/or integrate relevant science information.		
Science Partnerships: - The LCC provides input to inform development of partners' strategic science planning and foundational documents that inform science implementation plans.		

Key Conservation Delivery Partners (e.g., JVs, NFHP, AFWA regional associations) - LCC has established partnership and interacts frequently to identify applied conservation priorities and related information needs.		
Conservation Science and Adaptation Strategy – Establishes the context, collaborative and integrated strategies, and roles and responsibilities of LCC partners in pursuing LCC mission. Each LCC is contributing to a broader effort by establishing and sharing priorities and producing products and tools that have utility beyond the LCC's geography.		
Conservation Integration & Application Plan – A comprehensive strategic action plan updated every three years that describes science agenda, approach and progress in collaborative monitoring, and communications strategy of the LCC. Identifies processes for sharing information, knowledge, products, tools, and strategies that benefit the LCC Network's vision, mission, and guiding principles.		