

Handout 10 North Atlantic LCC Science Investment and Accountability Schedule

SIAS 2.0 (FY2014)			North Atlantic		
Conservation Activity Areas and Benchmarks	Metrics	Metric Score	Bench-mark	Metric Score	Justification (limited to <4000 characters)
<p>1. Organizational Operations: Addresses fundamental organizational and administrative components necessary to establish and maintain an LCC as part of the National LCC Network. The LCC Partnership is composed of participating organizations (LCC Partners), is directed by the LCC Steering Committee (LCC SC), and is supported by the LCC Staff as well as science, technical and other work teams. The LCC Staff and LCC SC and their associated organizations actively engage other relevant individuals, organizations, and partnerships creating collaborative relationships with key decision makers who are able to influence current and future landscape conditions. The LCC Staff maintains strong professional contacts and connections, networking to keep LCC Partners abreast of current conservation issues, techniques, etc. The LCC Staff also 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 (LCC Geography). LCCs must work closely with other conservation science and delivery activities to ensure efforts are coordinated and integrated. The LCC participates in development of common national LCC network messages to relevant state, regional, and national entities. The LCC works to ensure its activities are coordinated and integrated with those of the Climate Science Centers, Cooperative Fish and Wildlife Research Units, Cooperative Ecosystem Studies Units, Forest Service Research Centers, Joint Ventures, Fish Habitat Partnerships, and similar key players.</p>					
<p>1.A - Engagement and Coordination - LCC Staff and Steering Committee are actively fostering strategic engagement, collaboration, and coordination with a diversity of entities that influence landscape conservation decisions, including: state and federal agencies, tribes, Universities, NGOs, regional partnerships (e.g., JVs, NFHPs, AFWA regions) and regional and local community planners.</p>	No	0	1A	1	<p>The North Atlantic LCC has a broad and active partnership of over 100 partners including a Steering Committee with 32 members representing federal and state agencies, tribes, Canadian partners and NGOs. Three technical teams and several project teams bring together technical expertise from agencies, universities and organizations across the LCC geography. A science delivery team links to decision makers at regional, subregional, state and local (land trust and community) scales. Regional partnerships including the Atlantic Coast Joint Venture, Eastern Brook Trout Joint Venture, Atlantic Coastal Fish Habitat Partnership, Northeast Partners in Amphibian and Reptile Conservation, Northeast Regional Ocean Council and others are linked to the LCC through team members and/or projects. The LCC has a particularly strong relationship with the Northeast Association of Fish and Wildlife Agencies at the Director, Administrator and technical levels including a joint effort to support regional work in support of regional context for State Wildlife Action Plans.</p>
	Yes	1			
<p>1.B - Leveraging Resources - LCC Partners contribute resources (e.g., staff, funding, infrastructure, tools, expertise, etc.) to fill administrative and technical capacity, and information gaps necessary to achieve the LCC mission.</p>	0% of total FWS annual investments leveraged by partner contributions (cash and/or in kind).	0	1B	2	<p>North Atlantic LCC partners contribute resources in numerous ways including staffing, in-kind participation and travel, complementary projects and match. The U.S. EPA contributes a full-time liaison to the northeast LCCs (North Atlantic and Appalachian) and the National Park Service contributes a portion of their coastal landscape adaptation coordinator's time to support LCC activities. The LCC and The Nature Conservancy share a GIS Analyst position to ensure spatial data are available to partners. About 50 non-FWS steering committee, technical team and science delivery team members provide in kind time and travel in support of LCC activities for several days a year. The close working relationship with the Northeast Climate Science Center results in a number of complementary projects (e.g., integrated stream science projects). The NEAFWA RCN program provides directly complementary project support towards common goals in the Northeast Conservation Framework. LCC projects do not require match but several projects providing matching funds or in-kind services. The total of these contributions is about 40% of the annual North Atlantic LCC budget.</p>
	1% to 33% of total FWS annual investments leveraged by partner contributions (cash and/or in kind).	1			
	34% to 66% of total FWS annual investments leveraged by partner contributions (cash and/or in kind).	2			
	67% to 100% of total FWS annual investments leveraged by partner contributions (cash and/or in kind).	3			
	>100% of total FWS annual investments leveraged by partner contributions (cash and/or in kind).	4			

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<p>1.C - Evaluating Progress – The LCC Steering Committee has established metrics and processes for identifying, collaboratively pursuing, and evaluating actions in support of the LCC’s mission, goals, and objectives. The LCC develops a comprehensive strategic action plan, updated on a regular defined time period, that describes their science agenda, approach, monitoring, and communications strategy and progress in collaboratively achieving the LCC mission.</p>	<p><i>Part i: Has the LCC started a comprehensive strategic action plan?</i></p>					
	The LCC has <u>not started</u> a comprehensive strategic action plan.	0	1C(i)	2	The North Atlantic LCC completed a comprehensive Conservation Science Strategic Plan in 2011 as well as a science delivery plan and communications framework in 2013.	
	The LCC has <u>started</u> a comprehensive strategic action plan.	1				
	The LCC has <u>completed</u> a comprehensive strategic action plan.	2				
	<p><i>Part ii: Has the LCC Steering Committee started a process for evaluating progress?</i></p>					
	The LCC Steering Committee has <u>not started</u> a process for evaluating progress at regular intervals towards established goals and updating the identification and prioritization of the most important science and capacity needs to support LCC goals	0	1C(ii)	2	LCC staff provide a state of the LCC presentation annually at each April Steering Committee meeting and the Steering Committee reviews and provides input on shifting of priorities. In 2013 the Steering Committee recommended a shifting of resources towards science delivery that was reflected in a new team, strategy and grant program for science delivery. The LCC technical teams review science priorities each year and provide recommendations on needs to address and update the science needs matrix. In 2013, that review resulted in adaptive actions to fund work that would be responsive to and complementary to Hurricane Sandy resiliency funded work.	
	The LCC Steering Committee has <u>started</u> this process	1				
	At least one iteration of this process, resulting in an updated strategic action plan, has been completed. Note: Report (in narrative form) on the identified adaptive actions taken as a result of the process.	2				
	1.C Summary Score		1C	4		
	<p>1.D - Engaged Technical Community and Dedicated Technical Staff - The LCC has organized the technical capacity, including dedicated partner staff, needed to address priority conservation science needs. Further, the LCC has established a working relationship with USGS regional Climate Science Center(s) and other entities to ensure that science and conservation activities involving the LCCs have access to the best regional technical information and that priorities are coordinated and integrated.</p>	The LCC has not organized technical capacity nor established relationships with the broader science community.	0	1D	2	The North Atlantic LCC has three engaged technical teams addressing coastal and marine, terrestrial and wetland and aquatic science needs in the LCC science strategic plan. The LCC has a science coordinator, science delivery coordinator, and GIS Analyst to provide technical staff capacity and staff support through EPA and NPS liaisons and a shared position with TNC. The North Atlantic LCC has strong working relationships with both the University and USGS components of the Northeast Climate Science Center (located 1 mile from the LCC office) and has been directly involved in developing and ranking the results of all CSC RFPs. Project oversight teams and peer reviewers ensure the LCC projects achieve their stated goals.
The LCC has established science teams or technical committees to assess science and technical needs for the LCC.		1				
The LCC’s science teams or technical committees are addressing the LCC’s priority conservation science needs.		2				
<p>2. Landscape Conservation Planning Foundation: Defines the foundation upon which an LCC builds an integrated landscape conservation planning, design, and delivery process that informs the identification of priorities 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 resources (biological, ecological, and cultural features and processes) including goals and measurable objectives and conservation priorities (knowledge, actions, or activities needed to address priority resources) for those resources. To be successful, landscape conservation planning and priority setting is a dynamic and iterative process that acknowledges and anticipates change, by incorporating the results and lessons learned from research, modeling and monitoring efforts. Further, assumptions are reviewed particularly for consideration of new threats and information - this review is to encourage the LCCs to regularly assess conservation priorities at various spatial and temporal scales.</p>						

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<p>2.A - Assess Existing Conservation Efforts - The LCC analyzes or assesses past and/or current large scale planning efforts' conservation priorities and associated goals and objectives (e.g., those identified by JV, NFHP, Marine National Monuments management plans, State Wildlife Action Plans, etc.) within the LCC geography to assist in the identification of priority resources. The LCC helps integrate conservation and design activity across partnerships to achieve LCC mission.</p>	The LCC has not documented or evaluated large scale planning efforts across its geographic area.	0	2A	4	<p>The North Atlantic LCC has assessed (and continues to assess) conservation priorities from relevant large-scale planning efforts including those of the Northeast Association of Fish and Wildlife Agencies, Northeast State Wildlife Action Plans, Atlantic Coast Joint Venture, Black Duck Joint Venture, Sea Duck Joint Venture, Eastern Brook Trout Joint Venture, Atlantic Coastal Fish Habitat Partnership, Northeast Partners in Amphibian and Reptile Conservation, Northeast Regional Ocean Council and others. The LCC convened and sponsored a Northeast Regional Conservation Framework Workshop with the Northeast Association of Fish and Wildlife Agencies with 86 participants, representing a cross-section of 13 state agencies, six federal agencies and 12 nongovernmental organizations or universities to review ongoing and completed regional science projects, agree on priority science needs and agree on a common adaptive conservation framework to organize future work. The results of that assessment and workshop guided the development of the LCC Conservation Science Strategic Plan. The above partnerships are part of the LCC technical teams and provide ongoing input on science needs and oversight for science projects. The LCC works closely with the NEAFWA Regional Conservation Needs (RCN) programs that pools State Wildlife Grant funding to address regional conservation needs and each year the RCN and LCC science needs are evaluated and coordinated to ensure complementarity. The LCC is working with the states to pool information from all 13 northeast State Wildlife Action Plans and to develop regional information for State Wildlife Action Plan updates. Examples of projects that the LCC is undertaking to address partner needs include: a joint project with the Atlantic Coastal Fish Habitat Partnership to develop a decision support tool for aquatic habitats and threats, the Designing Sustainable Landscapes project and a migratory landbird stopover project that support high priority science needs of the Atlantic Coast Joint Venture, and a priority conservation area project and vernal pool mapping project that address needs identified by the Northeast Partners in Amphibian and Reptile Conservation.</p>
	The LCC has queried partners throughout the geographic area and documented large scale planning efforts.	1			
	The LCC has conducted, or evaluated the results of, formal assessments of large scale planning efforts and has documented convergence/overlap of priorities and objectives of all AND identified key information/monitoring needs identified by said planning efforts to enhance strategic conservation. <i>Note: Report on methodology used for assessment (e.g. forums, workshops, literature review) and provide synthesis of findings.</i>	2			
	The LCC has incorporated priorities of ongoing planning efforts and/or identified opportunities to leverage planning efforts. <i>Note: Report on how priorities and information needs have been considered and formally incorporated into LCC workplan and information acquisition/delivery strategy.</i>	3			
	The LCC has effectively leveraged, and provided key information needs to, large scale planning efforts across its geographic area. Partners in said efforts are integrated with LCC operations and actively exchange scientific information and provide updates regarding conservation delivery. <i>Note: Report on number of planning efforts successfully integrated, type and extent of information exchanged and extent of conservation delivery undertaken for common resource priorities.</i>	4			
	The LCC has not started this process.	0			<p>Based on the ongoing assessments and input from partnerships, the North Atlantic LCC is using a transparent, partner and science based approach for identifying priority resources and a subset of those priority resources for detailed conservation research, planning and design. The North Atlantic LCC went through a process to identify representative (surrogate) species across the LCC. The</p>
	The LCC has initiated the process to identify priority resources.	1			

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<p>2.B - Identify Priority Resources -The LCC uses the compilation developed in 2.A to help conduct systematic and transparent processes resulting in the identification and establishment of priority resources (biological, ecological, and cultural features and processes) and conservation priorities for those resources.</p>	<p>The LCC has identified and formally established priority resources.</p>	<p>2</p>	<p>2B</p>	<p>2</p>	<p>process involved 1) identifying priority federal trust species including migratory birds, federally-listed species and interjurisdictional fish as well as state priority species including Species of Greatest Conservation Need that occur in a majority of northeast states; 2) associating these species with habitat classes; 3) clustering species by their habitat associations; 4) developing a ranking; 5) hosting workshops to get partner input and 6) selecting representative species that best represent the full set of priority species. Species habitat models are now being developed for 30 of those representative species through the Designing Sustainable Landscapes project. In addition the LCC is working with partnerships to identify priority resources for additional conservation planning and design. The LCC worked with the Eastern Brook Trout Joint Venture and Black Duck Joint Venture to develop models and tools to guide actions to sustain those species, the habitats they depend upon and the other species that use those habitats. The LCC is working with the Northeast Partners for Amphibian and Reptile Conservation to identify priority amphibian and reptile species, and determine priority areas and climate vulnerability assessments for those 62 species. The LCC is working with the Atlantic Coastal Fish Habitat Partnership to identify a subset of priority coastal fish for detailed threats assessment, habitat modeling and design. The LCC is using the piping plover as a priority beach species to assess the impact of sea level rise and storms on beaches. An LCC team identified 64 representative, foundational and concern species for a NatureServe Climate Change Vulnerability Index assessment. The LCC supported work to do a habitat vulnerability assessment for 13 terrestrial and wetland habitat types, cold water stream habitats, and coastal habitats. The LCC supported the development of consistent habitat classification and maps based on an ecological systems classification and are conducting assessment of the ecological integrity of those ecological systems across the region through the Designing Sustainable Landscapes project.</p>
					<p>2.C - Collate and Establish Conservation Goals and Measurable Objectives - The LCC is using existing partner conservation goals and measurable objectives, as appropriate, or refines them in 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's geography.</p>
	<p>The LCC has initiated the process to identify measurable objectives.</p>	<p>1</p>			
	<p>The LCC has completed identification of measureable objectives for at least 25% of the identified priority resources.</p>	<p>2</p>			
	<p>The LCC has completed identification of measureable objectives for at least 50% of the identified priority resources.</p>	<p>3</p>			
	<p>The LCC has completed identification of measureable objectives for 100% of the identified priority resources.</p>	<p>4</p>			

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<p>2.D -Refining Landscape Conservation Planning Foundation - The LCC partnership has developed a mechanism and timeline for updating conservation priorities and associated objectives, including revisiting conservation design and assessment of assumptions under which it bases its designation of priority resources (See 2.B) and decisions relative to achieving the LCC's mission as part of an adaptive management framework.</p>	<p><i>Part i: Has the LCC developed a process and timeline to reassess priority resources and measurable objectives at regular intervals?</i></p>				
	No	0	2D(i)	1	<p>The North Atlantic LCC is using an iterative process and timeline to select priority resources with the goal of planning for the least number of resources that represent the needs of the greatest number of resources. After modeling and developing conservation designs for 30 representative species by July 2014, we will evaluate how well these species represent our broader goals and will add or modify the selection of resources and objectives based on that evaluation. We are going through a similar process with Northeast States for Regional Species of Greatest Conservation Need by evaluating which species are represented and which need to be modeled separately. We are also modeling the integrity of ecological systems across the northeast and will have the ability to iteratively refine goals for these ecosystems.</p>
	Yes	1			
	<p><i>Part ii: Has the LCC used the results and products of research, monitoring, and modeling activities within an adaptive management framework to improve and revise conservation plans, conservation design tools, monitoring protocols, and research priorities for the LCC's priority resources?</i></p>				
	No	0	2D(ii)	1	<p>The North Atlantic LCC is using the results of completed projects or phases to inform future projects and phases of conservation design. The LCC Designing Sustainable Landscapes conservation design and modeling framework project was piloted in three areas and the research and modeling results from those pilots are being applied to the landscape change, assessment and design elements in the second phase that is being applied across the whole Northeast Region. Monitoring results from the NWR salt marsh integrity monitoring program in the northeast are being used to design the salt marsh restoration monitoring program being developed through the LCC for Hurricane Sandy resiliency projects.</p>
	Yes	1			
	<p><i>Part iii: Has the LCC implemented a process to assess assumptions under which it bases its designation of priority resources and its establishment of conservation priorities?</i></p>				
	No	0	2D(iii)	1	<p>The North Atlantic LCC is evaluating major assumptions related to representative species. The assumption that the selected suite of representative or surrogate species effectively represent the need of a larger set of priority species is being tested in the Designing Sustainable Landscapes project by comparing representative species modeled outputs with priority species distributions. Validation of models is also built in to several projects. A Bayesian approach to modeling is being used for projects with high uncertainty to allow for continuous assessment and improvement of assumptions and model parameters (e.g., adjusting the habitat suitability assumptions in the sea-level rise and Piping Plover project).</p>
	Yes	1			
	<p><i>2.D Summary Score. Note: Provide narrative report to support all "YES" responses to the above.</i></p>			2D	3
<p>3. Landscape Conservation Design: Interprets the biological, ecological, and cultural goals and objectives for priority resources defined by the LCC in support of the mission of the LCC and the LCC network. LCC members develop or assemble climate, land-cover, land-use, hydrological and other relevant data in spatially explicit contexts to define and predict landscape patterns that support biological, ecological, and cultural resource goals and objectives defined in Conservation Activity Area #2 (Landscape Conservation Planning Foundation). Results of conservation planning and integrated landscape design are used to establish conservation and adaptation strategies to help target conservation delivery.</p>					
<p>The LCC has not conducted vulnerability or landscape assessments.</p>		0			The North Atlantic LCC has completed climate change vulnerability assessments for species and

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<p>3.A - Vulnerability and Landscape Assessments - LCC staff and partners are coordinating, supporting or conducting vulnerability assessments specific to the LCC's priority resources and agreed upon conservation goals and objectives. The LCC also coordinates, conducts, and supports the development of landscape assessments that consider current and expected future conditions of landscapes and uses these two sets of analyses to evaluate the capability of the LCC's geography to support its objectives and targets for the LCC's priority resources.</p>	The LCC or partners are developing or assembling information necessary to drive vulnerability and landscape assessment efforts for the LCC's priority resources.	1	3A	4	habitats across the northeast region. For habitats, a subset of terrestrial, aquatic and coastal habitats thought to best represent the range of climate change vulnerability were assessed. For the species vulnerability assessment, a set of 64 species including representative, foundational and species of high regional concern representing the priority species resources in the region were assessed. The Designing Sustainable Landscapes project is assessing current and projected future habitat suitability for representative species, rare species and integrity of all ecological systems in the region by assessing the individual and combined impact of climate change (temperature, precipitation, sea level rise) and land-use change (urban growth) on these resources. Specific vulnerability assessments are also being conducted for piping plover, brook trout, and amphibians and reptiles.
	The LCC or partners have completed or adopted vulnerability or landscape assessments for at least 33% of the geography or 33% of the LCC's priority resources.	2			
	The LCC or partners have completed or adopted vulnerability or landscape assessments for at least 66% of the geography or 66% of the LCC's priority resources.	3			
	The LCC or partners have completed or adopted vulnerability or landscape assessments for its entire geography for all priority resources.	4			

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3.B -Adaptation Strategies- Informed by vulnerability and landscape assessments for the LCC's priority resources, the LCC develops and integrates practical tools and information resulting in adaptation strategies that identify alternative management approaches for specific conservation priorities. For example, an adaptation strategy may consider the effects of climate change, land-use change, and ecosystem services in the development of management actions and landscape designs for the LCC's priority resources.	The LCC is not developing climate change adaptation strategies.	0	3B	4	Through the Designing Sustainable Landscapes project, the North Atlantic LCC has linked the assessment of priority resources as represented by representative species and ecosystems (ecological systems) across the region to landscape conservation design maps and tools. The maps and tools help partners adapt to and make decisions about how much of what conservation actions are needed where for land protection, ecological restoration and management to most effectively sustain priority resources in the face of climate change and land-use change. These landscape conservation designs will be used at various scales including regional, subregional (e.g. large watershed) and local. The tools will allow partners to evaluate and optimize the effectiveness of alternative management approaches.
	The LCC is developing or compiling assessments of threats, exposure, and resilience (vulnerability) to inform climate change adaptation strategies.	1			
	The LCC or partners have developed or adopted adaptation strategies for at least one of the LCC's priority resources.	2			
	The LCC or partners have developed or adopted adaptation strategies for more than 25% of the LCC's priority resources.	3			
	The LCC or partners have developed or adopted adaptation strategies for more than 50% of the LCC's priority resources.	4			
3.C - Integration of Multiple Priority Resources and Associated Measurable Objectives into Landscape Conservation Designs - The LCC is developing spatially-explicit conservation designs and products that reflect landscape conditions and the ability of current and future landscapes to support the LCC's priority resources.	The LCC Steering Committee hasn't committed to this process.	0	3C	4	Through the Designing Sustainable Landscapes project, species distribution models for Species of Greatest Conservation Need and a partner (TNC) resilient landscapes project, the North Atlantic LCC has developed spatially-explicit conservation design tools for the entire northeast region under current and future conditions for species habitat capability, ecological integrity and resiliency. A pilot effort in the Connecticut River Watershed will allow for further refinement of these tools and resulting design options. Other assessment and design projects including a "Decision support tool to assess aquatic habitats and threats in North Atlantic watersheds and estuaries" are adding detail on specific species and groups of species across the region.
	The LCC Steering Committee has committed to adopting or developing shared conservation designs for the LCC's priority resources.	1			
	The LCC has completed shared conservation designs for up to 50% of the LCC's geography or for up to 50% of identified focal areas.	2			
	The LCC has completed shared conservation designs for more than 50% of the LCC's geography or for more than 50% of identified focal areas.	3			
	The LCC has completed shared conservation designs for 100% of the LCC's geography.	4			
4. Informing Conservation Delivery: Ensuring that scientific information and technology are useful and readily available to decision makers that can influence 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 relevant to individual organization mission pursuits. These products are built in consultation with end users, transferred and accessed with minimal impediment, and applied in a manner that improves efforts that address common and shared conservation priorities. LCCs must work closely with other conservation science and delivery partners to ensure efforts are coordinated and integrated.					

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<p>4.A - 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.</p>	The LCC has not produced decision support information or tools.	0	4A	4	<p>The North Atlantic LCC is working with the 13 northeast states to develop, compile and synthesize regionally consistent spatial data on over 70 environmental variables and over 500 species to provide regional information for decision support in State Wildlife Action Plan (SWAP) updates for all of their priority regional Species of Greatest Conservation Need. Based on the synthesis results, the LCC and states are refining and focusing this information to best support the SWAPs. The LCC has developed decision support tools for representative species and ecosystems under current and future conditions through the Designing Sustainable Landscapes Project and based on testing these approaches in pilot areas and holding workshops with partners, the LCC is now refining and improving these tools for application across the region. The LCC developed a sea level rise model for making decisions on management of beaches for piping plover and based on application in one part of the LCC (Assateague) are now expanding this approach across the region. Working with the Atlantic Coastal Fish Habitat Partnership, the LCC is developing a Decision Support Tool for aquatic habitats and threats for coastal, estuarine, diadromous, and freshwater species. The LCC has developed models for the impact of stream flow and temperature on Eastern brook trout and based on results in watersheds in New England are expanding the approach across the LCC.</p>
	The LCC is investing in the development of decision support information or tools.	1			
	The LCC's conservation partners are using the decision support information or tools developed by the LCC to address at least one of the LCC's identified priority resources.	2			
	The LCC's conservation partners are using the decision support information or tools developed by the LCC to address at least 50% of the LCC's identified priority resources.	3			
	The LCC is refining/improving the decision support tools and information it has developed to better meet the needs of conservation partners relative to the LCC's identified priority resources.	4			
<p>4.B - Information Delivery - The LCC develops delivery techniques to ensure that the LCC's products and tools are available for various decision makers that influence landscape conditions relevant to resource priorities and conservation objectives of the LCC and the LCC partners.</p>	<p>Indicate the extent to which the LCC has addressed the benchmark. Note: Include description of the information delivery capacity (techniques being used for resource priorities include: Access to data, visualization of data, integration of information, workshops/conferences, etc.).</p>		4B	4	<p>The LCC conducted an extensive information management needs assessment with partners and based on the results of that assessment, developed an information management system (Conservation Planning Atlas) using Data Basin and ScienceBase for access and visualization of data in addition to the extensive information available through the LCC's content management website. The LCC has also set up a specific site to organize all of the spatial data for the northeast states to meet their needs for State Wildlife Action Plan updates. The LCC has developed a Science Delivery Team to focus on delivering, translating, training and helping partners use information and tools. LCC staff and partners are conducting training on the tools this year and developing delivery networks from the regional to the local scale.</p>
	Not at all; none;	0			
	Minimally; barely; to a small degree;	1			
	Medium; moderately;	2			
	Mostly; largely; to a large degree;	3			
Fully; completely; significantly.	4				
<p>4.C - Assessment of Information Delivery - The LCC has a transparent system to track and assesses use of products it has invested in and makes adjustments to the products or the delivery techniques, as needed.</p>	The LCC has no tracking system in place.	0	4C	3	<p>The LCC has the ability to track use of its Data Basin Conservation Planning Atlas and an information management team that assessed the Data Basin site and recommended improvements. The Northeast states have provided feedback on how to make the site more useful. The site (as well as the LCC website) has been modified based on this feedback. The use of the sites by states, FWS and other partners is increasing. The Science Delivery team will continually assess the use of products and provide feedback.</p>
	The LCC has an information delivery tracking system in place.	1			
	The LCC is receiving and analyzing feedback on its approach to information delivery.	2			
	The LCC is actively modifying its information delivery techniques to meet the needs of its management partners and the LCC demonstrates an overall increase in the use of its products and tools over time.	3			

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<p>4.D - Collaborative conservation delivery to realize resource objectives - The LCC has been effective in informing resource managers and wildlife managers about the LCC's collectively identified conservation priorities (and related information and planning tools) for the landscape. Where appropriate, partners integrate shared LCC conservation priorities into respective planning activities and align their conservation delivery to support achievement of objectives for the LCC's priority resources while also meeting their missions, mandates, and authorities. Optimally, these actions can be tied directly to the desired measurable responses of fish and wildlife populations, as well as other natural and cultural resources valued by the partnership.</p>	LCC partners have not integrated LCC conservation priorities with management plans nor delivered conservation actions consistent with objectives for the LCC's priority resources.	0	4D	3	The Northeast States are incorporating conservation priorities for all regional Species of Greatest Conservation Need and regional habitats into their State Wildlife Action Plan updates based on a synthesis effort by the LCC. The LCC is working with the National Wildlife Refuge System to develop landscape conservation designs (LCDs) to address all priority species and ecosystems consistent with the "Landscape Scale approach to Refuge System Planning" developed by the refuge system, initially through a pilot LCD in the Connecticut River watershed. The LCC is also working with refuges on a Preliminary Project Proposal (PPP) for a shrublands NWR across the northeast region. Partners including the Trust for Public Land are using initial LCC information and tools to guide land protection decisions.
	The LCC partners have incorporated the conservation priorities for up to 50% of the LCC's priority resources into conservation planning or decision-making processes.	1			
	The LCC partners have incorporated the conservation priorities for greater than 50% of the LCC's priority resources into conservation planning or decision-making processes.	2			
	The LCC partners are implementing conservation delivery actions (Partners applying their respective authorities, abilities and funding where appropriate) to achieve measurable objectives for up to 50% of the LCC's priority resources.	3			
	The LCC partners are implementing conservation delivery actions (Partners applying their respective authorities, abilities and funding where appropriate) to achieve measurable objectives for greater than 50% of the LCC's priority resources.	4			
<p>4.E - Tracking Delivery on the Landscape. The LCC has developed or has access to the capacity to track, catalog and report on conservation delivery actions undertaken and implemented by management partners, as well as to evaluate the utility of LCC products to improve delivery. The LCC has implemented a methodology (voluntary updates from partners, surveys conducted by LCC staff, etc.) to populate and update the tool or process. This tool/process allows the LCC to catalog modifications to operational plans and subsequent conservation delivery actions that help to achieve measurable objectives for the LCC's priority resources and to assess effectiveness of LCC conservation design products. The tool/process is used to promote situational awareness of ongoing conservation operations among the LCC's partners, to facilitate evaluation of attainment of collectively recognized conservation priorities (provides target rich environment for 5B), and to adaptively improve LCC products.</p>	The LCC does not track partners' use of LCC products nor evaluate attainment of conservation priorities or objectives for the LCC's priority resources.	0	4E	1	The North Atlantic LCC has developed a Science Delivery team that includes about 30 partners from federal and state agencies, tribes, NGOs and regional partnerships. The science delivery team has developed and are implementing a strategy and process for delivering information and tools that includes information management, training, demonstration projects and grants to partners. This team will evaluate the utility of LCC products for improving partners' conservation delivery. The LCC is also working with the Northeast States to ensure that the state and regional information in State Wildlife Action Plan updates is consistently tracked through the wildlife TRACs program designed to track all Wildlife and Sport Fish Restoration grants.
	The LCC has developed a tracking tool or process that examines the utility of LCC products for improving partners' conservation delivery and that can be used to evaluate attainment of measurable objectives for the LCC's priority resources.	1			
	The LCC is measuring attainment of measurable objectives for up to 25% of the LCC's priority resources Attainment of objectives includes on-the-ground delivery of conservation mechanisms as a result of LCC products.	2			
	The LCC is measuring attainment of measurable objectives for 25% to 75% of the LCC's priority resources. Attainment of objectives includes on-the-ground delivery of conservation mechanisms as a result of LCC products.	3			
	The LCC is measuring attainment of measurable objectives for greater than 75% of the LCC's priority resources. Attainment of objectives includes on-the-ground delivery of conservation mechanisms as a result of LCC products.	4			
<p>5. Decision-based Monitoring: Entails promoting and supporting a collaborative monitoring approach to track and evaluate landscape change overtime relative to conservation objectives for the LCC's conservation and resource priorities. Where adequate, LCCs use 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. The results of these efforts are shared broadly and result in refined approaches to conservation and adaptation actions.</p>					
<p>Indicate the extent to which the LCC has addressed the benchmark:</p>					
Not at all; none.		0	LCC partners and partnerships are monitoring priority resources using existing programs. The LCC is linking conservation design to measurable objectives that relate to these existing monitoring programs (e.g. Breeding Bird Survey). The Northeast States completed a Regional Indicators and		
Minimally; barely; to a small degree (The need has been clearly identified and a committee structure adopted to support the goal).		1			

Handout 10 North Atlantic LCC Science Investment and Accountability Schedule

SIAS 2.0 (FY2014)			North Atlantic		
Conservation Activity Areas and Benchmarks	Metrics	Metric Score	Bench-mark	Metric Score	Justification (limited to <4000 characters)
5.A - Collaborative Monitoring - The LCC helps coordinate sharing of protocols, data management and analysis tools, etc. among the collaborative monitoring network partners including the Service's Inventory and Monitoring capacity (i.e., Refuges I&M) and other LCC member organizations.	Medium; moderately (Committee established that represents the diversity of organizations needed to monitor the LCC's established conservation priorities and associated objectives).	2	5A	3	Measures project and through a second project -- Conservation Status of Fish, Wildlife and Natural Habitats in the Northeast Landscape, reported on the status of approximately 30 key indicators and measures specific to eight habitats and two regional species groups in the northeast. The LCC is working closely with the FWS NWR Inventory and Monitoring Program to focus survey efforts towards conservation priorities. The LCC is establishing consistent protocols for monitoring and assessing road stream crossings for aquatic connectivity and resiliency. The LCC is working with NWRs, the National Park Service and NOAA NERRs to monitoring the effectiveness of tidal marsh restoration for increasing resiliency to sea level rise and storms. Overall, the LCC is helping to coordinate among and link between these monitoring efforts.
	Mostly; largely; to a large degree (Monitoring objectives are set and protocols established).	3			
	Fully; completely; significantly (Necessary investments are available to initiate monitoring).	4			
5.B - Monitoring Change of the Landscape and Priority Resources The LCC facilitates evaluation of and sharing and synthesis of information on landscape change over time and projected changes in status of priority resources. The LCC tracks change in status of priority resources relative to established conservation objectives at time-relevant intervals. Results are being used by decision makers to refine conservation and adaptation actions.	<i>Indicate the extent to which the LCC has addressed the benchmark:</i>		5B	4	Through the Regional Indicators and Measures project, Conservation Status of Fish, Wildlife and Natural Habitats in the Northeast Landscape, and the Geospatial Condition Assessment, LCC state partners working with The Nature Conservancy have assessed the current status of conservation priorities. The LCC has developed approaches to model and project the future status of priority resources based on scenarios of climate change, urban growth and succession. As part of its landscape conservation design approach, the LCC is developing measureable objectives that link to these projections and to existing species and habitat monitoring programs. LCC partners are also coordinating on the monitoring status and change of salt marshes and salt marsh species through the Salt Marsh Integrity Index and monitoring of salt marsh obligate species including saltmarsh sparrows.
	Not at all; none.	0			
	LCC partners are monitoring status and change of conservation priorities and associated objectives within at least one landscape previously identified as an LCC focal area or within at least 25% of the LCC's geography.	1			
	LCC partners are monitoring status and change of conservation priorities and associated objectives within at least one focal area or within at least 25% of the LCC's geography and results have been integrated and shared, resulting in refinement of priorities, objectives and designs for conservation or adaptation actions.	2			
	LCC partners are monitoring status and change of conservation priorities and associated objectives within multiple LCC subunits (focal areas) or within at least 50% of the LCC's geography and results have been integrated and shared, resulting in refinement of natural resource priorities, objectives and designs for conservation and adaptation actions.	3			
LCC partners are monitoring status and change of conservation priorities and associated objectives across entire LCC geography. The results have been integrated and shared, resulting in refinement of priorities, objectives and designs for conservation and adaptation actions.	4				
6. Research to Support Adaptive Management: Conservation planning, conservation design, conservation delivery, and monitoring are placed in the adaptive management framework envisioned by SHC. Research is focused on identified uncertainties and assumptions associated with each of the previous five activity areas such that conservation priorities and the actions taken to address them are being regularly re-evaluated by the LCC. The LCC has identified, prioritized, and targeted research that addresses key uncertainties, assumptions and significant gaps in knowledge for the LCC as it organized its efforts to identify and address priority resources. The LCC coordinates, supports, or conducts identification of sources of key uncertainties with respect to their influence on planning, conservation design, monitoring, and information delivery and uses those results to guide future science activities (e.g. data collection, research, model refinement) as part of the adaptive management framework.					
	The LCC has no process in place for evaluating its ability to address key uncertainties related to priority resources.	0			The North Atlantic LCC worked with state and other partners to develop an adaptive management framework -- the Northeast Conservation Framework --that builds on Strategic Habitat Conservation and links together planning, delivery, information management, monitoring and research. This framework forms the basis of the LCC Conservation Science Strategic Plan and the ongoing
	The LCC has identified, prioritized, and targeted research that addresses key uncertainties for one of the LCC's priority resources.	1			

Handout 10 North Atlantic LCC Science Investment and Accountability Schedule

SIAS 2.0 (FY2014)			North Atlantic		
Conservation Activity Areas and Benchmarks	Metrics	Metric Score	Bench-mark	Metric Score	Justification (limited to <4000 characters)
<p>6.A - Testing Underlying Assumptions - The LCC has identified, prioritized and targeted research that addresses key uncertainties related to LCC priority resources. The LCC coordinates, supports, or conducts identification of key uncertainties with respect to their influence on planning, conservation design, monitoring, and information delivery and uses those results to guide future science activities (e.g. data collection, research, model refinement) as part of the adaptive management framework.</p>	The LCC has identified, prioritized, and targeted research that addresses key uncertainties for up to 33% of the LCC's priority resources and has used the results of this research to guide its science activities.	2	6A	4	assessment of science needs. Three technical teams for coastal and marine, terrestrial and wetland and aquatic use this framework and annually review the key uncertainties and research for their systems to support future planning and design with an emphasis on supporting conservation decisions. Key uncertainties and assumptions in these three systems are being addressed through LCC, Northeast Climate Science Center and other partner funded research including the states' Regional Conservation Needs program. Overall assumptions are being tested including the assumption that representative (surrogate) species are able to represent the conservation needs of the species that have similar habitat needs in conservation planning. Specific assumptions are being tested such as the effectiveness of salt marsh restoration techniques (e.g. thin layer deposition or living shorelines) in increasing the persistence of marshes in the face of sea level rise. The Regional Conservation Needs program is addressing data gaps and uncertainties of specific priority Species of Greatest Conservation Need.
	The LCC has identified, prioritized, and targeted research that addresses key uncertainties for between 33% and 66% of the LCC's priority resources and has used the results of this research to guide its science activities.	3			
	The LCC has identified, prioritized, and targeted research that addresses key uncertainties for more than 66% of the LCC's priority resources and has used the results of this research to guide its science activities.	4			
<p>7. 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 Conservation Activity Area addresses whether the LCCs are coordinating across partners and linking activities to standards developed to function as a national network.</p>					
<p>7.A - Data Management and Integration - The LCC has developed or adopted a data and information management plan that identifies how information management will occur among LCC Partners and the LCC Network. The LCC's lead data management capacity implements the data management plan and uses a shared data and information platform to accumulate and deliver foundational data, conduct data gap assessments, provide a repository and tracking mechanisms for modeling, research, or other science products.</p>	The LCC has no data management plan in place.	0	7A	3	The North Atlantic LCC has an information management system (Data Basin Conservation Planning Atlas) that is contributed to and used by multiple partners and partnerships and an information management team to manage the site and ongoing information management issues. The LCC also has a content management website that is managed for multiple partners to post data and use shared work spaces. The LCC has the technical and staff capacity to post and manage data, and then compile, analyze and synthesize that data to provide information and tools needed by partners. The LCC led an effort to develop a data-sharing agreement among the 13 northeast states, NatureServe and the LCC to share the Natural Heritage Program and other occurrence data for over 500 Species of Greatest Conservation Need. The LCC has a shared position with The Nature Conservancy to clean up, document and post numerous regionally consistent data sets on the LCC Data Basin site as well as their data site. The LCC has synthesized over 70 regionally consistent data layers along with the species data to give the states critical regional information on species and habitats for their State Wildlife Action Plan updates including Conservation Opportunity Areas.
	The LCC has a data management plan in place.	1			
	A functional data management platform has been implemented, consistent with the plan, and funded science projects are adhering to the management plan (delivery of data and metadata).	2			
	The LCC has capacity for management and stewardship of the platform, including ability to interrogate, utilize, and manipulate datasets to provide interpretive products and new or improved decision support tools and opportunities for the LCC.	3			
All LCC partner organizations that have data relevant to the LCC's priority resources or to LCC science planning needs are contributing or exposing (with appropriate controls and security) those data.	4				
<p>8. LCC Network Function: The LCC enterprise was designed to be an integrated network of self-directed partnerships to address broad resource management challenges. To secure the conservation landscape of the future, the 22 unit LCC Network should function seamlessly by addressing conservation issues at appropriate scales via shared priorities and targets. Although each LCC has unique characteristics and challenges specific to its geography, an important measure of an LCC's success is how well it integrates and shares with neighboring LCCs, other partnerships and the network as a whole.</p>					
	LCC staff does not actively and regularly participate in formal LCC Network activities, including national working groups, coordinator calls, and national meetings.	0			LCC staff including the coordinator, science coordinator, science delivery specialist, GIS Coordinator and GIS Analyst actively participate in the LCC network on various national teams. The LCC routinely coordinates with neighboring LCCs - the Appalachian, Upper Midwest Great Lakes, and South

Handout 10 North Atlantic LCC Science Investment and Accountability Schedule

SIAS 2.0 (FY2014)			North Atlantic		
Conservation Activity Areas and Benchmarks	Metrics	Metric Score	Benchmark	Metric Score	Justification (limited to <4000 characters)
<p>8.A – Participation in the LCC Network Enterprise - LCC staff participates in formal LCC Network activities, including participation on national working groups, coordinator calls, and national meetings. Further, LCC staff and Steering Committee members engage in informal network activities to exchange ideas, conservation tool development (data management, decision support tools, etc.) and problem solving techniques. The overall goal is to ensure efficiency and collaborative learning across the broader landscapes in addressing science and management issues and needs.</p>	The LCC has formally shared its priorities and/or conservation objectives with neighboring LCCs and looks for opportunities to coordinate planning and conservation design to determine if its conservation products and activities can inform the conservation objectives of those other LCCs at broader scales.	1	8A	3	Atlantic - by attending meetings, workshops and conference calls and by coordinating on specific issues. The North Atlantic LCC led early efforts to ensure that the LCCs within the geography of the Northeast Climate Science Center (CSC) coordinated and provided a unified set of priorities to the CSC, many of which were subsequently funded and monthly calls between the northeast and midwest LCCs and the CSC now occur. The North Atlantic, South Atlantic LCCs and Northeast and Southeast CSCs are coordinating on coastal issues related to sea level rise. The North Atlantic LCC Conservation Planning Atlas and Southeast LCCs Conservation Planning Atlases utilize a common data platform (Data Basin/ScienceBase). The North Atlantic and Appalachian LCCs utilize the same web developer and have linked sites that share information. In 2013, the North Atlantic LCC served on the review panel for the National LCC RFP. The North Atlantic LCC is also participating with eight other LCCs on one of the multi-LCC projects that resulted from the RFP, "Integrating Approaches to Conservation Design Across the LCC Network in the East."
	The LCC is routinely coordinating and collaborating with neighboring LCCs on business approaches (e.g., RFPs, communication strategies, business models, etc.).	2			
	The LCC is collaborating with at least one other LCC on a multi-LCC science project that fills a shared data gap, produces a shared decision support tool, and/or addresses a shared management concern/question of multi-LCC partners.	3			
	Landscape-level conservation delivery has occurred as a direct result of fulfilling metrics 1, 2, and 3 above.	4			
<p>8.B - Function as Part of Integrated Network of LCC Partnerships – LCC identifies shared priorities with other LCC(s) and coordinates planning and conservation design, as appropriate. LCC 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., regional, continental, and oceanic).</p>	<i>Indicate the extent to which the LCC has addressed the benchmark:</i>		8B	3	The North Atlantic LCC led early efforts to ensure that the LCCs within the geography of the Northeast Climate Science Center (CSC) coordinated and provided a unified set of priorities to the CSC. Many of these priorities were subsequently funded, including common approaches to stream temperature, habitat classification and mapping and climate change impacts on forests. The North Atlantic, South Atlantic LCCs and Northeast and Southeast CSCs are coordinating on coastal issues related to sea level rise and are supporting a common project to address issues related to impacts of sea level rise on waterbirds at multiple spatial scales. The North Atlantic LCC core project on Designing Sustainable Landscapes links to the project of the same name in the South Atlantic LCC and the P.I.s of the two projects coordinated in the their development. The LCC is participating with eight other LCC's on the National LCC project for integrating conservation designs across the East, which is intended to foster cross-LCC compatibility and consistency in planning. The Ecological Systems habitat classification and mapping completed for the northeast region utilizes the same base classification as the classification and mapping in the southeast (through Regional Gap Analysis) and the national Ecological Systems classification system. The North Atlantic LCC is developing projects that encompass the entire Northeast Region including part of three other LCCs. The North Atlantic LCC selected representative species for its species habitat modeling and conservation planning in close consultation with neighboring LCCs. The North Atlantic LCC and the Upper Midwest LCC are coordinating on aquatic connectivity database, protocols and tools. The North Atlantic LCC and Southeast LCCs utilize a common data platform (Data Basin/ScienceBase). The North Atlantic and Appalachian LCCs utilize the same web developer and have linked sites.
	Not at all; None	0			
	Minimally; barely; to a small degree;	1			
	Medium; moderately;	2			
	Mostly; largely; to a large degree;	3			
Fully; completely; significantly.					
		4			
Unadjusted Total SIAS Assessment Score (i.e., sum of Metric Scores; maximum: 86)			75		
Adjusted Total SIAS Assessment Score (i.e., sum of normalized Metric scores; maximum: 22)			19.25		