Matrix designed to facilate the development of the interdependent roles and responsibilities shared among organizations and agencies of the Landscape Conservation Cooperative (LCC) and staff supporting the Cooperative. Roles and relationships among the Cooperative agencies/organizations/individuals can be aligned and arrayed along the functional responsibilities and key products expected of the partnership. The matrix can be used to assess progress being made within each sub-element as well as help to identify priority data or capacity needs. The Cooperative is not a single office, facility, or a team of science and technical staff rather its the larger community who formally agrees to develop a shared vision of landscape sustainability, cooperate in its implementation, and collaborate in its refinement. Dedicated staff supporting the LCC help to coordinate activities among programs, organizations, and partnerships and provide science and technical expertise to fill capacity gaps. Member organizations of the Cooperative are each responsible for the success of the LCC.

Landscape Conservation Cooperative
Sustaining Fish and Wildlife Populations Through Science, Technology and Partnerships. (Version 2.0)

SHC Element	Sub-element	Functional Responsibilities & Key Products (Relevant to differnet species/system groups (e.g. Fish, Birds, Herps etc)
Biological Planning	Biological Planning Units	Identify and describe any subunits and their biological/ecological relevance. Describe processes for coordinating with other LCCs for priority species that transcend LCC boundary.
	Priority Species	Develop a list of priority species/populations from existing plans (e.g., State Wildlife Action Plans, Recovery Plans) or ongoing/planned assessments (e.g., climate change vulnerability assessment). Select a subset of species/populations to represent the full suite of priority species for which the LCC will engage in biological planning and conservation design. Document process and assumptions in identification of priority species/populations and selection of subsets.
	Population Objectives	Develop explicit population objectives linked across scales (i.e., regional objectives meaningfully tied to national goals). Where appropriate, population objectives should account for environmental variability. Transparent, defensible and replicable process for deriving population objectives well-documented with key uncertainties explicitly identified.
	Limiting Factors	Generate list of factors considered most limiting to specific species and populations. Describe how factors influence demographic parameters (e.g., abundance, survival rate, recruitment rate) and how they inform and target conservation actions (e.g., habitat management).
	Species/Habitat Models	Develop species-habitat models that quantify population response to limiting factors. Document assumptions as testable hypotheses.

Conservation Design	Landscape/Habitat Assessment	Conduct rigorous analyses of current landscape/habitat carrying capacity based on explicit species-habitat models. Where possible, conduct retrospective analysis of carrying capacity during period of desired population levels. Predict impacts of multiple stressors (e.g., urban growth, climate change, public policies) individually and in concert on carrying capacity. Forecast expected carrying capacity with and without the Cooperative's intervention.
	Assessment of Conservation Estate	Conduct comprehensive analysis throughout the biological planning unit of existing habitat under protection, management, enhancement, or restoration that supports priority species. Information appropriately delineated (e.g., by ownership, state, etc.) to inform management. Assessment of net change in the conservation landscape conducted at ~5 year intervals.
	Decision Support Tools	Develop both non-spatial and spatially-explicit decision support tools to guide and target specific management actions for overcoming limiting factors. Document analytical processes and model assumptions. Define strategy for distributing tools and soliciting feedback from appropriate agencies and organizations.
	Conservation Objectives	Develop conservation (e.g., habitat) objectives explicitly linked to population objectives based on population-habitat models, carrying capacity, assessment of conservation estate, and decision support tools, as available. Partition habitat objectives among sources (e.g., ownership, state, habitat types), where appropriate.
	Integrate Multiple Species Objectives	Use Structured Decision Making processes to develop tools and methods for spatially and temporally integrating habitat objectives and management options for all priority species/populations across the biological planning unit. Describe decision-rules for conflict resolution given the extent of spatial/temporal overlap in conservation activities among species.

Conservation Actions	Program Objectives	Translate habitat objectives into spatially-explicit, program-specific objectives (e.g., North American Wetlands Conservation Act, Conservation Reserve Program, Wetland Reserve Program, National Wildlife Refuge System, Wildlife Management Area System, etc.). If appropriate, develop ranking systems to inform prioritization and decision-making based on landscape-scale assessments.
	Conservation Delivery Mechanisms	Catalog conservation delivery actions, tools, and management treatments applicable to conservation of priority species within biological planning unit, both by members of Cooperative as well as other organizations and programs. Describe how each specific conservation actions is anticipated to affect priority species abundance and/or vital rates.
	Communication and Education Delivery Mechanisms	Develop interactive communications strategy focused on employees, partners, and other audiences as appropriate to raise awareness about these broad-based science partnerships in the context of priorities including our community's response to accelerating climate change, and engage members of the conservation community. Such a strategy would help us bolster a web presence, build broader communications partnerships and aggressively support priority conservation work.
Outcome-based Monitoring	Conservation Tracking System	Ensure conservation tracking and spatial database systems are in place and being used to store and integrate habitat actions occurring on the landscape. Describe how information will be used to inform decisions (e.g., increasing performance for Program X). Clarify linkages between tracking systems and biological models to facilitate assessment and reporting of biological accomplishments.
	Habitat Inventory and Monitoring Program	Identify clear objectives and develop appropriate protocols for habitat monitoring programs that are linked to biological planning and conservation design. Define habitat parameters to be estimated and anticipated duration of monitoring program. Detail procedures (e.g., remote sensing, field biologists) and time interval for data collection and assessments. Characterize how data will inform decisions (e.g., establishing appropriate management intervals). Provide analytical support and develop desktop tools for land managers collecting data. Assess program performance.
	Population Monitoring Program	Identify demographic parameters to be monitored based on explicit population objectives. Define expected process (e.g., aerial surveys, nest monitoring), protocols, and time interval for data collection, storage, and management. Describe how information collected from monitoring programs will inform future planning decisions (e.g., refine population objectives). Assess population response relative to modeled predictions.

Assumption-driven Research	Species/Habitat Model Assumptions	Identify and prioritize (based on value of better information) targeted research that addresses key uncertainties within models used in biological planning and conservation design.
	Conservation Treatment Assumptions	Identify and prioritize targeted research that addresses key uncertainties about the response (e.g., changes in demographic parameters) of priority species/populations to specific conservation actions.
	Keyfactor/Sensitivity Analyses	Conduct or facilitate statistical analysis of key parameters to examine their relative influence on population or habitat model predictions based on a range (e.g., confidence intervals) of assumed values (e.g., percent grass on landscape).
	Spatial Data Analyses	Conduct rigorous statistical analyses of key uncertainties (e.g., classification errors) related to the use and application of spatial data used in planning or monitoring. Document errors to facilitate refinement of geospatial datasets, when possible.