

SCHEDULE A: PROJECT NARRATIVE

Grantee agrees to meet the following project outcomes as specified in the grant proposal submitted to the Wildlife Management Institute.

Geographic Scope: The overall geographic scope of this project includes the entirety of states that make up the U.S. portion of the North Atlantic LCC region: ME, NH, VT, MA, RI, CT, NY, NJ, PA, DE, MD, and VA. Compilation of data from field assessments that have already been conducted will focus on the New England states, New York and New Jersey, but all states will be included in the project team and initial steps.

Goals

1. A network of individuals and organizations working together to assess barriers, set priorities and implement project to restore river and stream continuity and enhancing the resiliency of transportation infrastructure
2. An infrastructure of GIS data, assessment protocols, scoring algorithms, databases and data sharing applications to support road-stream crossing assessments and priority setting for the restoration of aquatic connectivity

Objectives and Tasks

Objective 1: Creation of network of people and organizations in the North Atlantic region collaborating in the assessment of road-stream crossing and working to restore aquatic connectivity

Task 1.1: Assemble and coordinate a team of Northeast partners associated with aquatic connectivity initiatives to work together strategizing and implementing aquatic connectivity projects (including field data collection) across the region

Task 1.2: Create a broad network of individuals and organizations interested in working locally to conduct road-stream crossing assessments and implement restoration projects

Objective 2: Reconfigure River and Stream Continuity online database and compile data from field assessments of road-stream crossings that have already been conducted

Task 2.1: Identify sources of road-stream crossing data currently available in the region

Task 2.2: Reconfigure River and Stream Continuity online database to accept data from NY and data collected using other protocols

Task 2.3: Compile currently available data into the River and Stream Continuity Project's online database

Objective 3: Reconcile various road-stream assessment protocols and scoring systems currently in use throughout the North Atlantic region

Task 3.1: Compile information on the various protocols and scoring systems currently being used in the region or in neighboring regions

Task 3.2: Crosswalk assessment data fields across protocols and implement scoring algorithms that will yield comparable scores for multiple data collection methodologies

Objective 4: Develop a recommended suite of protocols for use across the North Atlantic region

Task 4.1: Create categories for assessment protocols based on objective (aquatic organism passage, terrestrial wildlife passage, culvert condition, geomorphic assessment, vulnerability to flood events) or level of rigor (rapid assessment, detailed assessment)

Task 4.2: Evaluate the strengths and weaknesses of the various protocols available for use in the region

Task 4.3: Make recommendations on protocols that should be broadly used throughout the region, including an approach for training partners to use the protocols

Objective 5: Create an infrastructure to support collection of road-stream crossing data in an integrated fashion across the North Atlantic region

Task 5.1: Using GIS data on roads and streams, identify road-stream crossings across the North Atlantic region and make available by state and for the region as a whole

Task 5.2: Using the xycode system developed by the River and Stream Continuity Project assign xycodes to all identified crossings across the region

Task 5.3: Make recommendations for an online database that can store, score and make available data on road-stream crossings across the region

Task 5.4: Identify existing data gaps and prioritize areas for new field surveys to fill data gaps based on the expected value of information on barriers for benefitting aquatic connectivity and resilience to future floods

Objective 6: Final report and delivery of electronic data

Task 6.1: Complete report of results and recommendations of next steps

Task 6.2: Make road-stream crossing assessment and GIS data available for download

Methods

The project team will be made up of key players in the Northeast involved in road-stream crossings assessment and prioritizing opportunities for the restoration of aquatic continuity and building transportation resilience. Represented will be the leaders of the River and Stream Continuity Project (UMass & TNC), Maine Stream Connectivity Work Group (Gulf of Maine Coastal Program), Vermont Aquatic Organism Passage Program (VT Fish and Wildlife Department), National Forest crossing assessment program (USFS), and Northeast Aquatic Connectivity Assessment (TNC). This core group will investigate other programs and data sources both within and outside the region including crossing assessment protocols being used in NH, CT and other states, similar work being conducted as part of the Upper Midwest and Great Lakes LCC, and the Geospatial Fisheries Information Network.

The project team will be responsible for identifying and compiling data from crossing assessments that have already been conducted, evaluating and reconciling assessment protocols and scoring systems, and making recommendation for protocols for use throughout the region. The River and Stream Continuity Project has an online database and mapping interface that is currently configured to accept data using the Continuity Assessment protocol and contains nearly 6,500 records from NH, VT, MA, CT, and RI. The database will soon be ready to accept data from NJ and will be configure as part of this project to accept data from NY. For this project the Continuity Project database will be configured to accept data from the VT protocol, ME protocol

and assessments of road-stream crossings in National Forests. This database could also be expanded to serve the larger North Atlantic region or as a model for a newer online database if the protocols recommended by the project team differ significantly from the Continuity Project protocols. The project team will make recommendations for an online database to serve the entire North Atlantic region.

Data currently being compiled by UMass Amherst as part of the Designing Sustainable Landscapes project will be used to identify road-stream crossings throughout the North Atlantic region and will be coded using the “xycoding” system developed by the River and Stream Continuity Project. Shapefiles of road-stream crossings by state and for the entire region will be made available for download from the streamcontinuity.org web site.

The Nature Conservancy will use data from the Northeast Aquatic Connectivity Project and other data to identify data gaps and map areas of high priority areas for road-stream crossing assessments.

Measurable Products/Outcomes

- Core group of Northeast partners associated with aquatic connectivity initiatives working together to assess barriers and set priorities for restoring river and stream continuity
- Road-stream crossing assessment data compiled and available in an online database and scored using compatible scoring systems
- Recommended suite of road-stream crossing assessment protocols for use across the North Atlantic region
- GIS data by state and for the region identifying road-stream crossings with xycodes
- Recommendations for an online database that can store, score and make available data on road-stream crossings across the region
- Maps/GIS data identifying areas of high priority areas for road-stream crossing assessment

Schedule for Key Events and Tasks

| Task | Key Players | Schedule |
|--|--|------------------------------|
| 1.1. Assemble and coordinate a team of Northeast partners | Lead: TNC Participants: Other team members | January 2014 – June 2015 |
| 1.2. Create a broad network of individuals and organizations | Lead: TNC | January 2014 – June 2015 |
| 2.1. Identify sources of road-stream crossing data | Lead: Alex Abbott Supporting: Other team members | January 2014 – March 2014 |
| 2.2. Reconfigure Continuity Database | Lead: UMass | April 2014 – June 2015 |
| 2.3. Compile currently available data | Lead: Alex Abbott & UMass Supporting: USFS & VT FWD | April 2014 – June 2015 |
| 3.1. Compile information on the protocols and scoring systems | Lead: Alex Abbott Supporting: UMass | January 2014 – June 2014 |
| 3.2. Crosswalk assessment data fields across protocols and implement scoring algorithms | Lead: Alex Abbott & UMass | March 2014 – June 2014 |
| 4.1. Create categories for assessment protocols | Lead: Alex Abbott Supporting: Other team members | March 2014 – June 2014 |
| 4.2. Evaluate the strengths and weaknesses of protocols | Lead: Alex Abbott Supporting: Other team members | April 2014 – September 2014 |
| 4.3. Make recommendations on protocols that should be broadly used throughout the region | Lead: Alex Abbott Supporting: Other team members | December 2014 |
| 5.1. Using GIS data identify road-stream crossings | Lead: UMass | January 2014 – June 2014 |
| 5.2. Assign xycodes to road-stream crossings | Lead: UMass | January 2014 – June 2014 |
| 5.3. Make recommendations for an online database that can be used across the region | Lead: UMass Supporting: Other team members | December 2014 |
| 5.4. Identify existing data gaps and prioritize areas for new field surveys | Lead: TNC | January 2014 – December 2014 |
| 6.1. Complete report of results and recommendations | Lead: UMass & TNC | March 2015 – June - 2015 |
| 6.2. Make road-stream crossing assessment and GIS data available for download | Lead: UMass | March 2015 – June - 2015 |

SCHEDULE B: PROJECT BUDGET

Grantee agrees to conform to budget amounts and categories as specified in the grant proposal submitted to the Wildlife Management Institute.

| Time Period | | | |
|---------------------------|----------------------|--------------------------|--------------|
| | FEDERAL FUNDS | NON-FEDERAL MATCH | TOTAL |
| Salaries and/or Wages | \$45,790 | | \$45,790 |
| Fringe Benefits | \$6,354 | | \$6,354 |
| Travel | \$1,500 | | \$1,500 |
| Equipment | | | |
| Supplies & Materials | | | |
| Contractual Services | \$81,000 | | \$81,000 |
| Indirect Cost Rate _____% | \$15,356 | | \$15,356.00 |
| Total | \$150,000 | | \$150,000 |