**REQUEST FOR APPLICATIONS (RFA) – February 2012**

**Appalachian Landscape Conservation Cooperative**

With his signing of Secretarial Order No. 3289 on Sept. 14, 2009, Department of Interior (DOI) Secretary Ken Salazar launched a climate change response strategy. A national network of Landscape Conservation Cooperatives (LCCs) was established as one centerpiece of the Department of the Interior’s strategy. The Appalachian Landscape Conservation Cooperative (LCC) is identified as part of this national network of LCCs (<http://applcc.org/>). The Appalachian LCC is intended to be a broad-based partnership of organizations concerned with the conservation of fish, wildlife, plants and their habitats, water, and cultural resources within the Appalachian LCC area. It will provide a forum for continuous exchange and feedback among partner organizations, scientists, and species and habitat managers in the Appalachians Region. Appalachian LCC partners will aggregate and consolidate existing information and coordinate research activities to meet common science needs identified across agencies/organizations, with particular attention to how climate change will impact fish and wildlife conservation. A secondary role of the Appalachian LCC will be to coordinate its efforts with those of the national LCC network, and collaborate on even larger-scale issues and projects. More information on the intended form and function of LCCs is available at <http://www.doi.gov/lcc>.

An early focus of the Appalachian LCC has been to identify science needs for the region. A Conservation Priorities Science Needs Workshop was held November 29-30, 2011 at the Inn at Virginia Tech in Blacksburg, Virginia (details regarding process and outcomes are available at <http://www.applcc.org/page/workshop2011>). The purpose of the workshop was twofold: 1) to review a draft Science Needs Portfolio compiled with partner input over a one-year period and ensure it accurately and comprehensively reflected science needs across many fields of expertise and 2) to recommend top science needs as near-term targets for the LCC. The top science needs were then evaluated by the Interim Steering Committee using ranking guidance in Appendix I.

In December of 2011, the Interim Steering Committee of the LCC adopted the top five ranked science needs and these are under the general topics of: 1) Ecological Flows, 2) Resource Extraction, 3) GIS/IT Needs, 4) Species and Habitat Distributions, and 5) Vulnerability Assessments. Ten project descriptions were developed to address these top science needs, and six of these were selected by the Interim Steering Committee for soliciting Requests for Applications in February of 2012 (reference the Appalachian website at [http://applcc.org/](http://applcc.org/_)

to view all six RFAs and supporting documentation. The current Request for Applications (RFA) is focused on Top Ranked Science Need #3. Forecast Resource Extraction, which is represented as:

***Thematic-Area Goal:*** *Collaboratively identify ways and opportunities to meet economic development and conservation management goals through the understanding of potential land use changes, economic impacts and pressures on the resources of the AppLCC region to improve decision-making and management.*

***Specific Science Support Need:*** *Using a suite of analytical tools, forecast future spatial footprint of energy production, mineral extraction, and associated infrastructure/transmission/transportation in coming decades (in 20 years) in light of changes to demand, technology, policy, and regulation, including econometric models to better understand the impacts on resources (species and habitats).*

Through this RFA, the Appalachian LCC is seeking parties interested in accomplishing the following project in support of the stated Top Science Need – Forecast Resource Extraction.

Project Description for Science Need #3:

**Forecast future spatial footprint of energy production across the Appalachian LCC region**

**Problem Statement:** Without a predictive visualization of energy development, the Appalachian LCC cannot make informed decisions on landscape conservation priorities. This project will provide an overview of principal stressors created by energy development, by sector and cumulatively across the Appalachian LCC. The products to be developed will include forecasting model(s), and Geographic Information System (GIS) products to provide a projection of the energy development footprint across the Appalachians LCC by individual sector and cumulative footprint. Deliverables will inform resource management decisions by providing a foundational reference for predicting potential future development as a spatial footprint that can be overlaid with Appalachian LCC targets and priorities.

**Project Narrative:** This project will use a suite of analytical tools to integrate relevant information in the creation of model(s) to forecast the future spatial footprint of energy production, mineral extraction, and associated infrastructure/transmission/transportation in coming decades (in 20 years) in light of changes to demand, technology, policy, and regulation, including econometric models. The model should integrate methods, data, and parameters that will be accepted by a wide range of stakeholders, including state and federal natural resource agencies, conservation organizations, industry, and other entities interested in energy development across the Appalachians. Known drivers for consideration as model and mapping variables are probable energy development locations with sufficient mineral or other energy resources, aggregated mineral and property rights, and anticipated market demand projections. The project shall be based upon available, reliable, credible geospatial data and appropriate industry planning/development factors and assumptions. Where geo-referenced data cannot be found or does not exist, available alternate analog or digital (e.g., data bases, spread sheets, tables, annotated maps, lists, etc.) formats with locational information for planned energy projects, is preferable to providing no data.

**Project Goal:** To produce forecasting model(s), and produce Geographic Information System (GIS) products to provide a 20 year projection of the coal, natural gas, and wind energy development footprint across the Appalachians LCC by individual sector, and allow each of these sectors to be rolled into a cumulative footprint view to better understand the impacts on valued natural resources (species and habitats).

**Deliverable(s):** Models and GIS products will be developed that depict potential energy development locations and reflect changes to demand, technology, policy, and regulation, including econometric models to predict potential cumulative impacts on the biological diversity and sustainability of valued natural resources.

Model(s) shall include, to the extent practicable, the following: (1) surface and underground coal mining permits, including all related surface facilities, such as coal preparation and loading facilities, waste disposal and water treatment sites, power boreholes, ventilation shafts, private haul roads, drainage control features, and other related facilities; (2) natural gas development locations shall be based upon industry practice and technological limitations, include well development pads and support equipment pads, hydro-fracing water retention storage ponds and other drainage control, private roads, compressor stations, pipelines and related transmission or other facilities; (3) wind development projects shall include the turbine pad footprints based on industry practice, drainage control and any private access roads, transmission lines and substations; (4) Other variables deemed necessary and appropriate to enhance the reliability and accuracy of the modeling and final mapping products; and (5) identify location and the cumulative impacts from the sector(s) proposed on the biological diversity and sustainability of valued natural resources

The geospacial information and products shall: (1) produce GIS shapefiles and/or layers showing anticipated footprints of coal (by seam), shale/natural gas (by stratigraphic unit), wind generation projects, and associated supporting infrastructure across the Appalachian LCC throughout a 20 year window, preferably in five-year increments and which, to the extent practicable, looks at development scenarios based on ranges of demand and expectations; (2) ensure all GIS data shall conform to Federal Geographic Data Committee standards. GIS data shall be compatible with Web Feature Service (WFS) base mapping and suitable for creating a GIS service consumable by state and federal natural resource agencies, NGOs, industry, and the general public; and (3) ensure that stratigraphic horizons for coal and natural gas sources are consistent, or should be able to be integrated with any existing correlation available from the appropriate state geologic/economic survey and/or USGS.

**Pre-existing Activity, Accomplishments, Tools, or Funding related to this Project:**

1) Existing Data and Methods that can be used to inform the project:

Demarcation of un-mined coal locations, coal resource, and reserves

<http://www.eia.gov/ftproot/features/gis_resources_article.pdf>;

<http://energy.usgs.gov/Coal/AssessmentsandData/CoalAssessments/Publications.aspx>;

<http://energy.usgs.gov/Coal/AssessmentsandData/CoalAssessments/AppalachianBasinCoalAssessment.aspx>; <http://pubs.usgs.gov/pp/p1625c/>

2) Pending and existing permits for coal mining available from States and OSM

Mineral and surface ownership data

Wind speed and productivity data models:

<http://maps.nrel.gov/re_atlas>;

<http://www.windpoweringamerica.gov/wind_maps.asp#us>

Energy development projections for Marcellus Shale and Wind in Pennsylvania:

<http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/pennsylvania/explore/the-energy-equation.xml>

Vendors interested in implementing the project as described above will be required to address a list of questions, as well as provide a Statement of Work and additional materials (as attachments). Please be thorough but brief in your responses.

**Timeline**

**January 5-10, 2012** First set of calls for each of five Workgroups to discuss assigned task and develop ideas on how to accomplish tasks.

**January 20, 2012** Rough drafts of Project Descriptions (to address the top ranked Science Needs) completed by all five Workgroups.

**January 30, 2012** Final Workgroup drafts of Project Descriptions and suggested vendors to be completed by all five Workgroups and submitted to LCC staff by COB.

**January 31 – Feb 4th** LCC Staff finalize Project Descriptions, list of possible vendors, and prepares review summary and ranking criteria.

**February 2012**

**Week 1** (6th – 10th) LCC staff transmits all Project Descriptions, vendor list, and review to ISC for their 1-week review.

**Week 2** (13th – 17th) ISC has conference call to vote on Project Descriptions to move forward.

**Weeks 3** (20th-24th) LCC Staff work with Executive Subcommittee of Interim Steering Committee to finalize all aspects of this RFA.

**February 24th** RFA is distributed to list of potential vendors developed by AppLCC, and others identified in a RFA distribution plan (distributions will extend into week of February 27th somewhat).

**March 2012**

**March 9** First Q&A call 10AM with interested applicants to provide information and entertain questions; to participate, dial 1-866-762-5634 and then passcode 4958152.

**March 19** Second Q&A call at 10AM with interested applicants to provide information and entertain questions; to participate, dial 1-866-762-5634 and then passcode 4958152.

**March 23** Third Q&A call at 10AM with interested applicants to provide information and entertain questions; to participate, dial 1-866-762-5634 and then passcode 4958152.

**March 29 5PM** All applications for funding support must be submitted to LCC Staff on or before this date. Staff will review for completeness and coordinate any deficiencies or concerns with applicants.

**O/A March 30** All complete applications that meet mandatory requirements as preevaluated by LCC Staff will be forwarded to the Executive Subcommittee of the Appalachian LCC Interim Steering Committee for consideration and decisions in early April.

**April 2012**

**O/A April 2-12** LCC staff lead coordinated effort to score final set of applications with Executive Subcommittee members and anonymous expert reviewers.

**O/A April 13** Executive Subcommittee holds conference call to vote on final recommendations.

**O/A April 16** LCC Staff direct our partner, the Wildlife Management Institute to issue contracts to selected applicants.

**April 27** All contracting is completed for this RFA.

Conference calls to respond to questions about this RFA will be scheduled at regular weekly dates/times and announced to all interested vendors at least 3 workdays prior. No individual additional communication will be allowable. Incomplete submissions will not be considered. Final decisions regarding this RFA will be made NLT April of 2012. Successful vendors will be required to consult with Appalachian LCC staff and key stakeholders regarding concept development and implementation approach before commencing work; written concurrence that this requirement has been met will be obtained by the vendor from the Appalachian LCC Coordinator. Early coordination is required to ensure that all electronic deliverables are compatible with software/hardware, databases, portals, tools, etc. utilized by the Appalachian LCC. The vendor will be required to maintain an electronic database in Microsoft Excel tracking activities and detailed expenditures, and this information will submitted with brief progress narrative on a monthly basis. Any equipment or non-expendable supplies purchased under this Statement of Work shall become the property of the Appalachian LCC.

**Evaluation Criteria for Applications**

Applications will be reviewed and rated by staff from the AppLCC, the Executive Subcommittee of the AppLCC Interim Steering Committee, and our management partner the Wildlife Management Institute. Preliminary assessments will ensure alignment of the application with the stated intent of this RFA and the goals of the AppLCC (see [http://applcc.org/](http://applcc.org/_)) for RFA announcement and Appendix I, ISC guidance for projects), as well as review the qualifications of the applicant. Ratings will be based on scientific merit, a history of acceptable contractual performance, time and financial budgets, commitment to stakeholder involvement, and direct applicability of the deliverables to adaptive resource management decisions, policy, and other actions; additional consideration will be given with evidence of partnership support and ability to leverage matching funds or in-kind services to support the application. ***Please note that when limits to content size are indicated in the Application Template, review and rating will stop at the indicated limit.*APPLICATION TEMPLATE**

**REQUEST FOR APPLICATIONS – February 2012**

**Appalachian Landscape Conservation Cooperative**

**Due Date:** Receipt March 23, 2012

**Submit To:** Appalachian Landscape Conservation Cooperative

(5 hard copies. c/o Dr. Jean Brennan

plus ecopy) 1900 Kraft Drive

Blacksburg, VA 24060

brennanj@vt.edu

**Direct Inquiries To:** Bridgett Costanzo

Science Coordinator, Appalachian LCC

[bridgett\_costanzo@fws.gov](mailto:bridgett_costanzo@fws.gov)

BB #413-313-3554

**Primary Investigator (name, title, organization):**

**Organization’s Background/Purpose:**

**Brief description of qualifications and statement of past performance (do not exceed 250 words):**

**Background and Context Responses**

(Describe the context, history, and current status of scientific endeavors directly related to Top Science Need #*1. Ecological Flows* by responding to the questions below. (***Do not exceed 3 one-sided pages of response for this section, no less than 11 pt Times New Roman font and line spacing at least 1.15.***)

**Question #1.** Describe any current program, initiative, or goal of your organization that this SOW would complement or contribute directly toward.

**Question #2.** Further describe any pre-existing infrastructure, activities or accomplishments, training, staff expertise, etc. that demonstrate your organization’s readiness to successfully implement this SOW.

**Question #3.** List potential partner(s) who might contribute expertise, other in-kind services or financial support to the activities under this SOW, and provide a Letter of Support from each partner(s) named. (Letters will not be viewed as an irrevocable commitment of resources or as formal match.)

**Question #4.** Describe your relationship to/with any key stakeholders (i.e. sponsors, participants, partners, host organizations, beneficiaries), including any stakeholder participation in the initial planning and development of this SOW.

**Question #5.** Describe how the completed project outcomes could be shared with the science community and other stakeholders at completion (e.g. tool deployed, training provided, outreach accomplished).

**Question #6.** Are you aware of any impediments to the LCC’s goal of accomplishing the project as described?

**Statement of Work (SOW)**

(***SOW* *not to exceed 4 pages, Times New Roman 11 pt font, and use line spacing at least 1.15***)

Title:

Project Narrative:

Important Background Information:

Goal/Purpose Statement:

Specific Deliverables (products, services, etc.):

Staff Expertise Offered (specific scientific, technical and communication/coordination expertise):

Explain any information needs or coordination that must be accomplished first before work can begin, and estimate timeline for this (also include this estimate in Timeline attachment):

Step-by-Step Process to Completion (proposed best approach, which may deviate from that suggested in the Project Description):

Peer-reviewed publications that evaluate the efficacy or validity of the proposed approach (no more than 5, please):

Required Attachment Materials

1. Timeline Table with distinct milestones, and initiation dates and deliverables for each milestone; include exact proposed start and completion dates assuming contract obligating funds is signed NLT April of 2012. IMPORTANT NOTE: Completion of milestones and deliverables can exceed one year’s timeframe, however significant milestones/deliverables must be well demonstrated within first 6-12 months and timeline commitments must be adhered to unless written approval is obtained at least 4 months in advance from the Appalachian LCC Coordinator.
2. Detailed Budget Table with separate categories for direct costs such as salary, equipment, travel, etc. and indirect/overhead costs; include narrative on cost-effectiveness measures. List any planned or potential sub-awards and explain associated tasks/expenses. One initial advance payment may be made not to exceed 25% of the total award; after which, invoices will be accepted for payment as milestones are incrementally accomplished. Variations to this payment schedule must be approved in writing by the Appalachian LCC Coordinator.
3. A signed No Conflict Declaration regarding personal or organizational conflict of interest.
4. List of Key Staff involved and a brief vitae for each including contact information for Project Manager, Primary Investigator, and the individual who will be providing financial oversight for implementation.
5. Optional: Letter of Support from significant partner/collaborator (signatures do not have to be originals, but originals should be retained in your files).
6. Optional: Commitment of Resources statement from your organization, a partner, stakeholder, or grant source (this commitment will not be considered formal match and does not preclude you from using the same as match for a grant pursuit).