**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 #1. Ecological Flows, which is represented as:

***Thematic Area Goal:*** *Quantitatively describe current and future hydrologic and structural habitat conditions and aquatic population trends, and set conservation goals for both, in order to maintain native habitats and endemic aquatic species in their current locations or support these as they migrate with land use and climate changes in the future.*

***Specific Science Support Need:*** *Assemble the necessary scientific information or conduct the necessary studies required to develop a rigorous understanding of the relationships among ecological flows and hydrology (discharge, seasonal, etc.), habitat (temp, geology, physical space, etc.), and aquatic biota/communities in order to assess how alterations to systems will affect their sustainability.*

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

Project Description for Science Need #1:

**Inventory and review of ecological flow models and monitoring networks with applicability to Appalachian watersheds**

**Problem Statement:** Historic hydrologic data including streamflow as measured by river gages is no longer a reliable indicator of future conditions, as municipal/industrial development (impervious surfaces, water consumption for households, hydro-fracturing and other industry uses) and climate change increasingly alter “normal” flows. While these impacts reduce predictive capabilities regarding instream flow rates, resource managers are challenged to justify protective measures recommended to retain minimum flows necessary to sustain endemic aquatic communities.

Flow models offer a methodology to predict instream flow using a variety of parameters, and are the best tool available to assist resource managers in making scientifically defensible recommendations and setting sound water resource policy. Existing instream flow models can be used to explore flow-ecology relationships to enhance long-term management of aquatic resources across the Appalachian region, however, many of these were developed at spatial or temporal scales that do not match existing benthic and fish data, model only high or low flows, or were developed by groups who wish to keep them proprietary. In phase I of this project will conduct an inventory and critical review of flow models and the underlying, or potential, data sources from instream monitoring networks, and provide recommendations of suitable model(s) for instream flow predictions both dependent and independent of ecological/biological data (the availability of which may be lacking or disjunct for the Appalachians at this time. Phase II would apply an appropriate model or models as identified in phase I, that assesses how existing permitted and non-permitted water uses and future climate conditions will alter critical hydrologic and hydraulic forces that maintain aquatic habitats, and forecast stream discharge for use in predictive habitat models and water supply estimates including municipal, energy and other industrial uses.

**Project Narrative:** It is essential to have an adequate understanding of the hydrology of a region to effectively manage and sustain aquatic resources. Assessing available information on instream flow and flow-ecology relations is a sensible first step in developing an organized regional program. Additionally, the information needed to explore flow-ecology relationships, particularly long-term monitoring networks and predictive models, is also needed to assess, predict, and plan for climate change. Managers have relied on their understanding of hydrology based primarily on long-term monitoring, and secondarily on the application of modeling results derived from input data from these long-term networks. Most long-term flow data are collected in the region by the USGS streamgaging network made up of the USGS and its partners National Streamflow Information Program (NSIP**,** <http://water.usgs.gov/nsip/>). One of the roles of the NSIP is to identify existing gaps in the network and their relative importance to aquatic resource management. Integrated monitoring programs associated with streamgages are designed to monitor aquatic assemblages as well as chemical and physical habitat conditions through time ,and are among the most important networks to identify; examples of these networks include those in Maryland (Roth et al. 2001) and the Clinch-Powell River Basins of Virginia (<http://vwrrc.vt.edu/cpcri/monitoring_and_information_management_team.asp>).

**Project Goal:**  Existing flow models can be used to explore flow-ecology relationships to enhance long-term management of aquatic resources across the Appalachian region, however, many of these were developed at spatial or temporal scales that do not match existing benthic and fish data, model only high or low flows, or were developed by groups who wish to keep them proprietary. Therefore, in Phase I of this project an inventory of flow models and the underlying, or potential, data sources from instream monitoring networks is needed to: 1) Determine what ecological flow models are in use or are applicable to the Appalachian LCC that would result in predictions of both low and high flows; 2) Recommend suitable model(s) for instream flow predictions both dependent and independent of ecological/biological data (the availability of which may be lacking or disjunct for the Appalachians at this time). The next steps to be conducted as a Phase II of this project are to: 3) Apply a predictive model(s) that assesses how existing permitted and non-permitted water uses and future climate conditions will alter critical hydrologic and hydraulic forces that maintain aquatic habitats; and finally, 4) Forecast stream discharge for use in predictive habitat models and water supply estimates including municipal, energy and other industrial uses.

**Deliverable(s):**

**Phase I:**

1) A report that assesses the availability of hydraulic/hydrologic and ecological flow models suitable for the Appalachians that predict discharge thresholds and frequency of both high and low flow events and the vulnerabilities these extremes will create for conservation targets, then recommends one or more models for use in the Appalachians.

2) A georeferenced summary assessment of adequacy of available ecological data to inform ecological flow model(s) for Appalachian streams, including a summary assessment of critical information gaps.

**Phase II**

3) Application of suitable hydraulic/hydrologic model(s), as recommended under Deliverable #1 above, to anticipate how an altered flow regimes will affect critical conditions; where those conditions are defined as discharge, hydraulic stability, minimum and maximum flows, and timing and duration of critical flows.

4) A forecast of discharge rates, hydraulic stability, minimum and maximum flows, as well as timing and duration of these for Appalachian watersheds.

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

South Atlantic Landscape Conservation Cooperative, SARP Aquatic Resource Management Project -

Assessment of Hydrologic Model Availability

[http://api.ning.com/files/pdNlG3cyALsHlA3C6k1q\*9LASvmq68LrZOTJGoyOrp9HDardDy2ykushDB3uiyW00-6QSgyH64NhcQexvREwWXQJ4jX2sCvg/SALCCHydrologicModelAssessment.pdf](http://api.ning.com/files/pdNlG3cyALsHlA3C6k1q*9LASvmq68LrZOTJGoyOrp9HDardDy2ykushDB3uiyW00-6QSgyH64NhcQexvREwWXQJ4jX2sCvg/SALCCHydrologicModelAssessment.pdf)

Historic streamflow statistics and regional regression equations for predicting discharge have been calculated in recent publications (Austin and Wiegand, 2010; Austin and Wiegand, 2010b; Law et al., 2009) using standard USGS methods, and can be used in gaged or ungaged basins.

Ongoing work by the Instream Flow Council (<http://www.instreamflowcouncil.org/>) and the Southern Instream Flow Network (<http://southeastaquatics.net/programs/southern-instream-flow-network-sifn>)

Multi-state Aquatic Resources Information System (MARIS) is an online resource that contains over one million population estimate, total catch, total weight, and water quality records for nearly 600 fish species, and it includes data from 8 of the 15 States within the AppLCC boundary.

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).