



PHOTO: MATTHEW CIMITILE

## INTRODUCTION

Landscape conservation is about bringing people, expertise, and resources together across a region to effectively respond to environmental challenges and attempt to create sustainable ecosystems. The Department of the Interior established Landscape Conservation Cooperatives (LCCs) to address conservation issues through a network approach of public-private partnerships that transcend political and jurisdictional boundaries. The Appalachian Landscape Conservation Cooperative (AppLCC) is an integral part of the national Department of Interior-led LCC Network of self-directed partnerships that has defined its vision of working collaboratively to maintain ecological integrity, deliver environmental benefits, and ensure the sustainability of wildlife populations. 2012 marked the second year of the AppLCC, and was marked by great strides in science capacity

building through **establishing its business model for the Cooperative, identifying and addressing vital science needs, and networking with the broader conservation community across the region through a content management Web Portal to deliver science products, data, and enhance awareness of conservation efforts.** The Appalachian LCC has built a strong foundation to provide greater support toward landscape conservation that will achieve lasting benefit for the environment, wildlife, natural resources, and the people of the Appalachians. This report provides details of the organizational foundation of the AppLCC. Building the foundation would not have been possible without the work and dedication of the Steering Committee members and partners through their commitment to address the environmental and landscape-level challenges of today.

# Building the Business Model

*Since its inception, the Appalachian LCC has been committed to building a strong foundation that brings together the conservation community to achieve landscape conservation through transparent and inclusive decision-making. 2012 was a tremendous period of dedication and focused discussions from Steering Committee members in defining the goals, direction, and expectations envisioned for the AppLCC.*

## Steering Committee Meeting & Workshop Helps to Develop 5-Year Work Plan

Thirty-four members of the Steering Committee and key partners met in Blacksburg, VA from July 11-13 for a meeting and workshop centered on development of the Appalachian LCC 5-Year Work Plan. The document was to articulate how the organization and membership would function to achieve a set of specific goals, objectives, and tasks. It was to include what the facilitation role would be in advancing the partnership, detail the resources and support staff necessary to achieve goals, and provide programmatic and planning guidance to the broad conservation community. Developing this plan was a critical step toward achieving a cohesive vision for conservation action, while providing support, tools, and information aimed at increasing efficiencies in planning and coordination to support delivery of on-the-ground conservation.

At the workshop, the Appalachian LCC staff presented participants with background information to encourage brainstorming and dialogue. Steering Committee members and additional representatives from partner organizations were given synthesized results from in-depth phone interviews

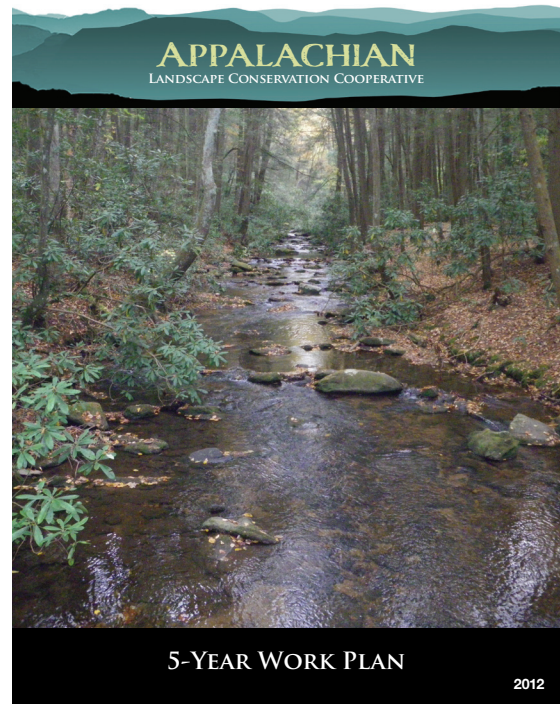
of Steering Committee members and an on-line survey of experts throughout the Appalachian region. These queries focused on gaining insights regarding what the Steering Committee and the larger partnership saw as the major conservation goals for the Appalachian LCC to achieve, the criteria that should guide prioritization of the new Work Plan, and how to measure the Cooperative's successes. Members were also presented with an analysis conducted by LCC staff in which they reviewed over 100 conservation-planning documents already in use by other regional conservation partnerships, state or federal natural resource agencies, and non-government organizations. Using all of the resources above, Steering Committee members began to formulate guiding principles, capture themes that define the Cooperative's scope of work, generate major conservation goals, and prioritize products and services the Appalachian LCC could accomplish in the near-term. The Workshop concluded with participants identifying the roles and contributions of the various Cooperative members and making decisions about work distribution to effectively achieve goals. More information can be found at: <http://applcc.org/the-cooperative/sc/sc-past-meetings-and-materials/isc-meeting-workshop-july-10-13-2012>.



## 5-Year Work Plan Approved and Incorporated

Based on the keen insights and recommendations gained from Steering Committee members during the 3-day Workshop, the Appalachian LCC staff worked with a private contractor through several working sessions to finalize the Work Plan document. The working sessions helped to more clearly define how the Cooperative would coordinate landscape-scale conservation activities, engage key stakeholders and the broader public, provide valuable support for on-the-ground conservation delivery, and more. Staff and contractors further developed the Work Plan draft to identify specific tasks to achieve overarching goals and suggested who would be best suited to accomplish those actions. The Appalachian LCC 5-Year Work Plan was approved by the Steering Committee in early October 2012.

Divided into three sections, the Work Plan begins by providing an overview of the Appalachian LCC and its governance structure. The second section details the four major Goals of the Appalachian LCC over the next five years. This includes specific objectives within each goal and a chronological list of tasks deemed necessary to achieve these. The plan concludes with staff recommendations on tasks requiring additional staffing or funding support to achieve. The Work Plan will be implemented through continued guidance by the Steering Committee and organized through Steering Committee member-led Work Groups based around categories such as “Programmatic Alignment,” “Communications,” and “Finance.”



Complementing the Work Plan, staff developed a crosswalk document that shows how the goals and objectives in the plan align with other state, regional, and nationally recognized conservation planning frameworks. The Work Plan addresses and integrates major topics from the State Wildlife Action Plans (SWAPs), the U.S. Fish and Wildlife Service (USFWS) Strategic Habitat Conservation (SHC) Framework, and the Northeast Regional Conservation Framework. Specifically, many of the objectives and tasks found within the Work Plan are associated with the major themes of SHC; Biological Planning, Conservation Design, Conservation Delivery, Outcome-based Monitoring, and Assumption-driven Research. More information is at: <http://applcc.org/our-work/5-year-work-plan/3-5-year-work-plan-products/cross-walk-of-how-work-plan-aligns-with-other-conservation-planning-frameworks>.

# Appalachian LCC

## 5-Year Work Plan Goals

*Goal 1. Create a landscape-level data sharing strategy and scalable toolset*

*Goal 2. Deliver landscape-level conservation plans for regional use*

*Goal 3. Create an on-going process to promote engagement and dialogue across the region*

*Goal 4. Assess and align conservation goals and actions that reflect the Cooperative Members' common and shared vision*

*Read the full plan: <http://applcc.org/our-work/5-year-work-plan>*

This foundational guide will support the work of the Cooperative by delivering the data, tools, communication products, and planning framework needed to work at a landscape level, and thereby increase efficiencies in planning and coordination among the many conservation and resource managers across the Appalachian region to improve coordinated delivery of on-the-ground conservation.

# Addressing Science Needs

## Science Needs Portfolio First Annual Review

An annual review process to identify and update priority conservation science needs of Appalachia is part of our “science business model” as approved by the Steering Committee in 2011. The “*Science Needs Portfolio*” is the cornerstone of the science business model or programmatic approach and is considered a “living document.” The Portfolio is reviewed and revised annually and based on guidance provided by the Appalachian LCC Steering Committee and an extensive review by technical experts drawn from across the entire LCC geography. The Portfolio is a robust and comprehensive compilation of science needs that are structured within thematic and program areas, and described as potential individual projects. It is organized by broad thematic areas (Aquatics, Human Dimensions, Forests, Climate Change, etc.) and structured to identify the highest-level “Mission, Science and Management Objectives” within each theme. Each theme is then sub-divided and described by “Programs” that identify groups of conservation activities and “Projects”, which in total would combine to achieve each “Programs” objectives.

The initial drafting of the 2012 Science Needs Portfolio followed one year of consultations with partners and culminated in a 3-day Conservation

Priorities Science Needs Workshop held in November of 2011. 2013 will mark the first revision of the Portfolio, which is being accomplished virtually through use of the AppLCC web portal to assemble the various technical groups or “Communities of Practice (COP)” to review, revise, and re-think the conservation needs across the region

and capture such deliberations within an updated version of the Portfolio. Reviewed annually by the broad science and management communities, the Portfolio compiles recommendations based on on-going or emergent needs, and reflects completion of previously funded projects.

Forty-eight experts from a wide range of technical background and associated COPs in both natural and social sciences volunteered to partic-

ipate in the first annual 2012 review of the Science Needs Portfolio. In addition to editing and updating the Portfolio contents, experts were asked to recommend “top science needs” which are then sent as recommendations to the AppLCC Steering Committee for final decisions. Top science needs are presented annually to the Steering Committee for consideration, prioritization, and project funding allocation decisions.



COVER PHOTO: KEITH WATSON

# FY11/12 Funded Projects – Quarterly Reporting on 2012 Progress

## Appalachian LCC Sponsored Projects Initiated in 2012

Based on science needs recommendations that resulted from the November 2011 Priority Conservation Science Needs Workshop, the Appalachian LCC funded five projects that were initiated in 2012 within the following broad categories: Ecological Flows, Aquatic Habitat Classification, Energy Forecasts (coal, wind, and shale), Climate Change Vulnerability Assessment and Data Needs Assessment. Technical Oversight Teams (TOTs) were assembled for each funded project to review quarterly reports and provide comments and helpful suggestions for improvements to ensure the work will result in the best deliverables possible. Oversight Teams completed their first assessments of vendor progress based on submissions of quarterly reports and this information can be viewed at <http://applcc.org/research>.

### 1 **ECOLOGICAL FLOWS:** *Development of a Hydrologic Foundation and Flow-ecology Relationships for Monitoring Riverine Resources in the Marcellus Shale Region*

The study will provide a report assessing availability of hydrologic and ecological flow model(s) suitable for the region, a georeference assessment of available ecological data to inform the ecological flow model(s), the application of the model(s) to anticipate how altered flow regimes will affect critical conditions, and a report that forecasts changes in hydrology and associated predicted biological responses in relation to different water resource development scenarios for critical watersheds.

**TOT Summary Assessment to Date:** Overall the quarterly report documents a good beginning to this important and well-designed project, with reasonable progress on each of the objectives. The

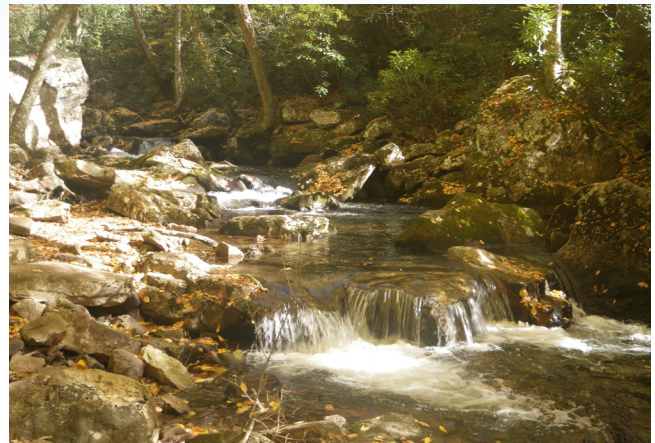


PHOTO: MATTHEW CIMITILE

TOT members have provided extensive technical comments to provide information to the vendor, Cornell University, and improve this project's deliverables. Primarily, suggestions for improvements focused on excellent coordination with other experts at each stage. Currently, the project is on schedule and meets expectations.

**Vendor:** Cornell University

**Completion Date:** April 2014

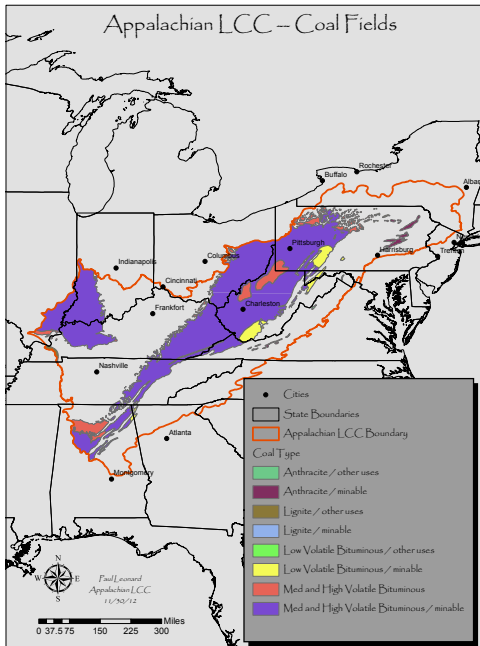


## 2 AQUATIC HABITAT CLASSIFICATION: A Stream Classification System for the Appalachian Landscape Conservation Cooperative

This research will develop a hierarchical classification for stream and river systems and a GIS map for aquatic ecosystems within the Appalachian LCC. The study will include a report describing the methods used to evaluate and develop the classification system, a literature review of existing stream classifications, and a GIS stream data set.

**TOT Summary Assessment to Date:** The project appears to be just getting underway, so not much to comment on at this point. Vendor had requested a delayed start date of October 2012, and initial progress was slow due to other staff commitments.

**Vendor:** The Nature Conservancy  
**Completion Date:** October 2014



MAP DEVELOPED BY PAUL LEONARD SOURCE (USGS)



PHOTO: U.S. FISH AND WILDLIFE SERVICE

## 3 ENERGY FORECASTS: Assessing Future Impacts of Energy Extraction in the Appalachian Mountains

Maps of wind, oil and gas, and coal development potential for the entire study area will be created. These maps and published projections from federal and state land management agencies will be used to model future build-out scenarios. Impacts of the build-out scenarios will be measured regarding habitat fragmentation of forest resources with a focus on the effects to biodiversity and water production for human populations. The study will also create a probability surface for land disturbance associated with large area surface coal mining and create a public web-based map server.

**TOT Summary Assessment to Date:** The TOT is very excited about this project, and TOT members have supplied critical coordination support to access updated and better quality coal seam data. The vendor has proposed an in-person meeting to update TOT members and discuss project details, however travel restrictions may preclude this. The project completion date may be delayed due to continuing efforts to secure access to much-improved data sources for development of coal and shale projections.

**Vendor:** The Nature Conservancy  
**Completion Date:** July 2013

## 4 CLIMATE CHANGE VULNERABILITY ASSESSMENT: *Support for Understanding Land Use and Climate Change in the Appala- chian Landscape*

This research will compile climate change vulnerability assessments and other relevant information on vulnerable species and habitats, discern the various methodologies and criteria used in these assessments, and use a team of expert peer reviewers to recommend the most efficient, effective, and appropriate methods for adoption by the Appalachian LCC for conservation and adaptation planning. The recommended method will then be deployed, resulting in vulnerability assessments for a suite of key species/habitats selected in consultation with partners of the Appalachian LCC. A database will be created of the vulnerability assessments of selected species and habitat. The database will be easily accessible on the web.

**TOT Summary Assessment to Date:** TOT members initially supplied additional supporting literature and opportunities to collaborate with other on-going projects that would complement this one. The vendor, NatureServe, has assembled a very productive peer team to assist with project development, and held several conference calls and one in-person meeting with this group to launch the project successfully. Currently, the project is on schedule and meets expectations.

**Vendor:** NatureServe  
**Completion Date:** April 2014



PHOTO: ANN FROSCHAUER

## 5 DATA NEEDS: *Data Needs Assessment to Support Conservation Planning for the Appalachian LCC*

This research will produce an analysis of tools, data, and processes to deliver usable, open-source data products and identify critical new data needs, within a short time frame. Extended time frame includes manipulating and producing new versions of critical datasets customized for the Appalachian LCC. A specific conservation planning process will also be developed and execute portions of that process that are possible with available data. Lastly, as these become available, this research will integrate deliverables achieved through science needs projects funded by the Appalachian LCC and currently underway.

**TOT Summary Assessment to Date:** TOT assembled with first Quarterly Report due April 30, 2013.

**Vendor:** Clemson University  
**Completion Date:** February 2014



# Building the Cooperative – Engaging the Community

*In the past year, engagement and coordination efforts have resulted in a stronger, more inclusive, and effective Cooperative. Coordination and engagement are vital aspects of any LCC in developing the network of land, water, wildlife, and cultural resource managers, scientists, and interested public and private organizations. Much of the Appalachian LCC's technical staff time and effort was formerly directed at enhancing and engaging with the Cooperative's membership while **providing support to the conservation community** that helped achieve their goals.*

## Jointly Funded Position Enhances Communication and Integration between Regional Partnerships



In a creative approach to share resources and fulfill common needs, the Appalachian LCC and the Appalachian Mountains Joint Venture (AMJV) mutually funded in June of 2012 a position to address communication goals and support partnerships of both organizations. The creation of this position has led to the development of two websites, increased communication reach within the region among partners and the public, and helped each regional partnership stay informed on current activities of the other. Both the Appalachian LCC and AMJV have critical and overlapping communication needs. Developing a shared public affairs position has allowed both partnerships to create a unified and strategic suite of communications tools that facilitates their work towards the common goal of landscape conservation in the region.

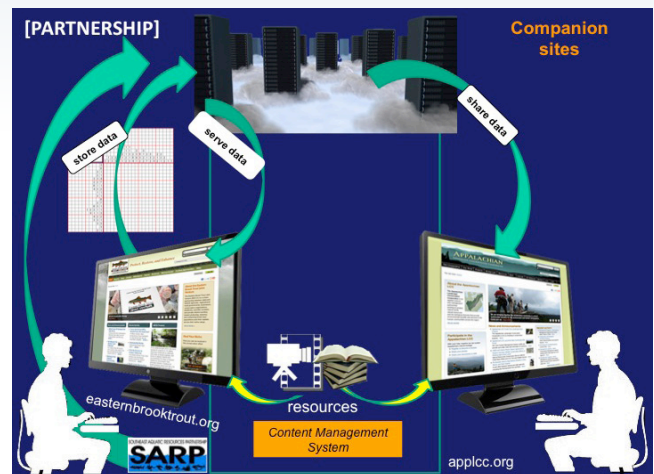


ILLUSTRATION BY JEAN BRENNAN

## Appalachian LCC and Eastern Brook Trout Joint Venture Launch Community Web Portals

The Appalachian LCC Community Web Portal was launched on October 2nd as a platform for the conservation community to use in coordinating work products and disseminating information about the Cooperative and its partners. This new Content Management System allows members to communicate with colleagues, upload and store data, and join private workgroup spaces to share preliminary products. It is also providing up-to-date news and information about the Appalachian LCC's work, ongoing projects, and new publications.

Currently, the portal is providing a vast amount of project management support. These include time sensitive funding announcements, online application submissions, workspaces for project technical groups, storage and dissemination of developed products, and eventual websites that showcase each project.

While developing this web portal, the Appalachian LCC Communications staff also worked with the Eastern Brook Trout Joint Venture (EBTJV) in creating a companion website with an identical web platform and similar functions tailored to the needs of the EBTJV community. The new website is providing a highly functional platform for the EBTJV to highlight past and current projects,

enhance outreach opportunities, and strengthen coordination and communication among members throughout their range.

In addition, the Appalachian LCC is also supporting data storage space that is currently hosting vital datasets on Eastern Brook Trout and their habitat in the eastern U.S. Providing data storage that allows easy access to information is a critical need for resource managers. The data will be used to create derivative products such as decision support tools to help Appalachian LCC partners identify geographic areas where conservation activities would have the greatest effect, select the appropriate management strategies, and improve coordination and prioritization among partners.

## Additional Highlights from the Year



David Whitehurst received the Clarence W. Watson Award

### Appalachian LCC Chair Receives Prestigious Conservation Award

**David Whitehurst**, Chair of the Appalachian Landscape Conservation Cooperative (LCC) Steering Committee and Director of the Bureau of Wildlife Resources at the Virginia Department of Game and Inland Fisheries (DGIF), received the Clarence W. Watson Award for his tremendous service to resource conservation. Whitehurst has 40 years of experience as a fish and wildlife biologist, spending the last 38 years in the Commonwealth of Virginia. During this time, he was instrumental in bringing science-based management to the Commonwealth's fisheries and wildlife conservation programs. This award is the highest conservation honor given in the southeastern U.S. and recognizes the individual who has made the greatest contribution to wildlife or fish conservation. It was presented at the 66th Annual Conference of the Southeastern Association of Fish and Wildlife Agencies held in Hot Springs, Arkansas on Oct. 9th.



Marquette Crockett

## Wildlife Biologist Provides Science Support for Surrogate Species Workshops and Data Needs

**Marquette Crockett**, a wildlife biologist with Canaan Valley Wildlife Refuge in West Virginia, joined the Appalachian LCC staff on a 30-day detail through the month of October. While a member of the staff, Crockett provided support to the USFWS Conservation Science Team's planning efforts related to creating a priority species list for the LCC and regional Surrogate Species Workshops. In addition, Marquette took on a leadership role in compiling a list of federally listed species of conservation need. She was also part of the team that helped to compile and finalize the Science Needs Portfolio for its most recent review. The Appalachian LCC would like to give a big thanks to the leadership of Canaan Valley National Wildlife Refuge for lending support to the Appalachian LCC by sharing technical capacity of their biologist and to Marquette directly for all her hard work.

## National Data Needs Management

GIS Specialist **Paul Leonard** was a member of the National Data Management working group that collaborated to produce documents related to data management, project tracking, and best practices. The group has proposed a call for Coordinators and Science Coordinators to facilitate the integration of the products from this team into each LCC and also to entertain questions about existing practices and potential conflicts.

While developing these key documents, a proposal from several members of the team was selected for funding through a LCC Request for Proposals.

The data management proposal describes the need for several robust data management tools that can be shared at a single user-friendly access point. Several possibilities are being explored including the Landscape Conservation Management and Analysis Portal, Arctic Project Tracking tool, and Data Basin. The group has proposed a call for Coordinators and Science Coordinators to facilitate the integration of the products from this team into each LCC and also to entertain questions about existing practices and potential conflicts.



## National Communications Team

The national LCC communication team dialogues on a monthly basis to provide regional LCC offices with an update on national activities, receive input from participants on products, and track development of communications around the country. Communication Specialist **Matthew Cimitile** was closely involved in many of these conversations throughout the year. He kept Appalachian LCC staff informed on many national developments

such as the creation of a national LCC website, compilation of success stories, and the beginnings of a strategic communication plan and social media presence. Matthew used this opportunity with the national communication team to discuss recent activities and direction of the Appalachian LCC. He is also providing support to the national team in reviewing products and supplying feedback.



PHOTO: BERLIN HECK

## Looking Forward

In the next 12 months, as the Appalachian LCC continues to fund and oversee projects that develop the tools and research necessary to enhance landscape conservation, much attention will focus on aligning actions that reflect the member's shared vision. The Cooperative will work to help partners align approaches that achieve greater conservation efficiency and effectiveness at the local level. The aim will be to foster a two-way, cooperative relationship with partners that focus interactions on mutual benefits. In addition, the Appalachian LCC will explore ways to more fully engage with stakeholders and society at-large regarding the major conservation issues and solutions for the region. The need to communicate and demonstrate the importance of landscape conservation work and how it directly benefits society has never been greater. Success in developing interacting platforms and targeted messaging that creates meaningful dialogue on new ways to deliver conservation will be critical to achieving the goals of the Cooperative. As 2013 begins, Steering Committee working groups are coming together to make many important decisions regarding programmatic alignment and stakeholder engagement initiatives to direct how best to move forward.

## Learn More

Appalachian Landscape  
Conservation Cooperative  
[www.applcc.org](http://www.applcc.org)

DOI LCC Homepage  
[www.doi.gov/lcc](http://www.doi.gov/lcc)

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