

# Appalachian Landscape Conservation Cooperative

## Purpose

Initiated in Fiscal Year 2010, the Appalachian Landscape Conservation Cooperative (LCC) will facilitate regional conservation planning and design to support existing conservation partnerships and promote innovative conservation approaches. Landscape-scale planning and design activities will identify priority conservation, monitoring and research needs for a wide range of priority species and their habitats. The Appalachian LCC will also serve as a coordinated mechanism to predict the effects of climate change on fish and wildlife resources and assess those risks in combination over time with other conservation challenges, such as water quality and quantity, energy development, land conversion and exotic species.

The Appalachian LCC will provide scientific and technical expertise to support a landscape-scale, collaborative approach that will assist the conservation community in carrying out landscape scale conservation.

As mandated by a September 2009 Secretarial Order, the U.S. Fish and Wildlife Service (FWS) is collaborating on LCCs with Department of the Interior agencies, states, Tribes and other agencies and organizations within a region to establish functional frameworks for LCCs. An integral partner in the Appalachian LCC will be the U.S. Geological Survey's (USGS) proposed Northern Regional Climate Change Response Center, which will help lead assessments of regional climate change-related impacts and provide vital climate change resources to Appalachian LCC partners. The Appalachian LCC and Northern Regional Climate Change Response Center will provide technical ability and consistent monitoring and modeling methods



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*Cerulean warbler*

necessary to effectively apply emerging climate change knowledge to predict habitat and species changes, target conservation actions to address impacts, and monitor systems and conservation actions over time.

However, the support provided by the Appalachian LCC will not be limited to climate change; rather, the partnership will work to address broad-scale changes anticipated to affect entire ecosystems, for example, development affecting water quality and quantity.

## Geography

The Appalachian LCC extends from southern New York State to central Alabama, and from southern Illinois to central Virginia, including all or portions of the Blue Ridge, Valley and Ridge, Appalachian Plateau and Interior Low Plateau physiographic provinces. The region supports some of the largest expanses of contiguous forest remaining in the eastern U.S., as well as thousands of miles of streams and rivers, agricultural and

grazing lands, rural communities, and large urban areas. Portions of the Appalachian LCC are recognized by the United Nations as biodiversity hotspots of global importance.

## Conservation Opportunities

While overarching priorities have not yet been adopted, given the existing partnership interests, the efforts of the Appalachian LCC will likely initially focus on conservation planning and design for recovery of federally listed aquatic species, other high-priority aquatic species, migratory birds, and bats. As resources become available, the partnership will also develop the capacity to address other priority taxa or unique ecosystems such as karst communities or high-elevation forests. In the Appalachian LCC region, Federal trust resources include more than 85 federally listed and 15 candidate species. The region's rivers support native brook trout, and one of the most diverse freshwater mussel assemblages in the world. The FWS

Northeast and Southeast regions have designated in the Tennessee River basin three mussel species – purple bean, fanshell and orange foot pimpleback – and one fish, the diamond darter as spotlight species; similar designations are being developed or exist for other priority watersheds and river basins.

The region of the Appalachian LCC supports 85 to 90 percent of the cerulean warbler breeding population, as well as large populations of several other birds identified as focal species by the FWS Migratory Bird Program; these include golden-winged warbler, wood thrush, Henslow's sparrow, red-headed woodpecker, loggerhead shrike, American woodcock, American black duck and wood duck. Species diversity and the appearance of white-nose syndrome in cave bats heighten the urgency for a strategic and coordinated approach to bat conservation.

#### Organization

The Appalachian LCC will build upon existing joint ventures and other partnerships to provide biological planning and conservation design to guide the conservation implementation work of conservation partners. Actions will be directed at habitat and species resource priorities that are vulnerable to the impacts of climate change and other factors limiting populations of priority species. The three FWS regions within the Appalachian LCC have initiated coordination on a scoping process to identify key partners, consider a governance structure, and determine science priorities.

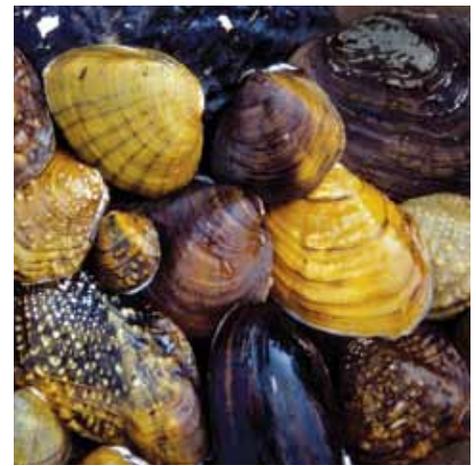
#### Partnerships

The Appalachian LCC entirely or partially encompasses numerous regional conservation partnerships: Appalachian Mountains Joint Venture, Atlantic Coastal Fish Habitat Partnership, Central Appalachians

Integrated Landscape of The Nature Conservancy, Central Hardwoods Joint Venture, Chesapeake Bay Program, Eastern Brook Trout Joint Venture, Ohio River Basin Fish Habitat Partnership, Southeast Aquatic Resource Partnership, Southeastern Bat Diversity Network, state wildlife action plan partnerships, FWS recovery plan teams, and others. The National Park Service and National Aeronautics and Space Administration have launched the Appalachian Trail MEGA-transect project for monitoring change through time. The Seneca Nation of Indians has expertise to contribute to conserve native trout and other fisheries, freshwater mussels, eastern hellbender and black ash. The Appalachian LCC is rich with opportunities for partnerships.

#### Capacities

Additional science capacity is needed to bolster and expand existing programs and partnerships. A combination of staff and other capacity from across the conservation community will provide for fully developing biological planning and conservation design. At a minimum, capacity needs include a coordinator for partnership development and contract efforts and a science coordinator. Other needs include a terrestrial and aquatic landscape ecologist/modeler, hydrologist, and GIS/spatial analysts -- these are dependent upon available funding. Staffing will be complemented with science funding to contract with USGS, academic institutions, state agencies and other partners to: complete down-scaled climate change models; update species vulnerability assessments to include climate change influences and identify priority habitat conservation needs; establish large-scale, standardized monitoring programs to track changes and inform models; guide basic research in areas such as white-nose syndrome, habitat-



Janet Butler/USFWS

#### Mussels

species interactions, and environmental contaminants; and create and manage appropriate GIS layers to use in developing conservation design tools for partners.

#### Next steps

In anticipation of fiscal year 2011 funding for the Appalachian LCC, FWS is reaching out to existing partnerships to help develop this LCC's framework, priorities and governance. In fiscal year 2010, at least one scoping meeting will be conducted to begin organizing ideas about the Appalachian LCC's administration, structure, staffing and conservation priorities. Once funds are appropriated, the Appalachian LCC will be able to start immediately to hire staff, coordinate or conduct priority research identified by partners, and host partner meetings to continue to refine the scoping process.

#### Contact

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#### To learn more

**Please visit the region 5 Web site at:**  
<http://www.fws.gov/northeast/science/alcc.html>

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Shenandoah National Park

Gary Stolz/USFWS

