

Appalachian Landscape Conservation Cooperative

Purpose

Initiated in fiscal year 2010, the Appalachian Landscape Conservation Cooperative (ALCC) 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, wildlife and plant 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 conservation landscape-scale conservation.

As mandated by a September 2009 Secretarial Order, the U.S. Fish and Wildlife Service (Service) 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 Northeast Climate Science Center and Southeast Climate Science 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 the USGS Climate Science Centers will provide technical ability and



Cerulean warbler

consistent monitoring and modeling methods 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 grazing land, 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 by partners, the initial efforts of the Appalachian LCC will likely focus on conservation planning and design for priority species. 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 Service's 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 priority species by the Service's 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 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 conservation implementation work or 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 Service 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. These include Appalachian Mountains Joint Venture, Atlantic Coastal Fish Habitat Partnership, Central Appalachians Integrated Landscape

of The Nature Conservancy, Central Hardwoods Joint Venture, Eastern Brook Trout Joint Venture, Chesapeake Bay Program, Southeast Aquatic Resource Partnership, Southeastern Bat Diversity Network, state wildlife action plan partnerships, Service 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. An Appalachian LCC coordinator has been hired to pursue partnership development, identify needed capacity, and coordinate 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 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



Janet Butler/USFWS

Mussels

funding for the Appalachian LCC, the Service is reaching out to existing partnerships to help develop this LCC's framework, priorities and governance. In fiscal year 2010, the Service conducted several scoping meetings to begin organizing ideas about the Appalachian LCC's administration, structure, staffing and conservation priorities. In fiscal year 2010, the Appalachian LCC has hired a coordinator, started to coordinate or conduct priority research identified by partners, and hosted partner meetings to continue to refine the scoping process.

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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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February 2011



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Shenandoah National Park