

APPALACHIAN

LANDSCAPE CONSERVATION COOPERATIVE

Stream Classification System for the Appalachians

Developing consistent region-wide information to ensure enough water for people and wildlife

Flowing freshwater is the lifeblood of the Appalachians. There are more than 400,000 miles of streams and rivers in the region providing food, energy and recreational opportunities. These waterways also support some of the most unique and endangered aquatic biodiversity found on the planet. To sustain the immense benefits these streams and rivers provide, it requires standardized stream classification information for the entire Appalachians. With such information, natural resource managers can plan and implement sustainable flow standards and water management recommendations to ensure enough water is available for people and wildlife.



PHOTOS: GARY PEEPLES/USFW

Despite decades of conservation efforts across multiple agencies, standardized information was lacking for this entire landscape, in part because the northern and southern systems of the Appalachians are quite distinct. To address this scientific and management need, the Appalachian LCC funded researchers from The Nature Conservancy to unify the various state-based stream classifications found throughout the region into a single, consistent system.



To learn more about this project, visit <http://applcc.org/research/stream-classification>

Using newly available data and a steering committee of 41 aquatic ecologists, conservation planners, and agency biologists from 17 states, The Nature Conservancy developed the first comprehensive map of stream and river types in the region. Researchers were able to accomplish this by mapping and classifying each stream in the region using six attributes:

Size: *the area drained by the stream*

Gradient: *the steepness of the stream channel*

Temperature: *the mean summer water temperature*

Hydrology: *the frequency, duration, and timing of streamflow*

Buffering Capacity: *the capacity of water to resist changes in pH that would make it more acidic*

Confinement: *the degree that topographic features limit the extent of the floodplain*

Story Maps

The overall products from this research include an interactive and illustrative story map, a report describing methods used to evaluate and develop the classification system, a literature review of existing stream classifications, and a dataset containing detailed information on every stream and river in the Appalachian region. Overall, the new region-wide classification system will provide context for understanding the extent and distribution of rivers and streams, help managers identify areas at risk from threats due to land-use or climate change, and can aid in the development of tools to guide water management decisions.



The Nature Conservancy 
Protecting nature. Preserving life.™

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To learn more about the Appalachian LCC, visit <http://aplcc.org>



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For information on the national network of LCCs,
visit <http://lccnetwork.org>