

The Need for an Essential Investment in

Kentucky Lands and Waters

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Introduction

Kentuckians place a high value on the traditions and opportunities we experience in our natural landscapes. From hiking and hunting in public forestlands to enjoying the bounty of local farmlands to boating and fishing along rivers and streams— all are deeply rooted in our lands and waters.

The conservation of our lands and waters is also fundamental to supporting a dynamic economy in Kentucky. This includes promoting both longtime and emerging signature industries such as outdoor recreation, tourism, agriculture, and bourbon.

Conservation land and clean waters are also key to attracting industries and businesses that will create jobs and boost local economies across the Commonwealth. Conserved and accessible lands and waters draw new workers and families to our state who similarly value access to great outdoor spaces.

Land conservation already contributes billions of dollars to Kentucky's economy in the form of jobs, taxes, tourism, and other sources of revenue. However, this is a drop in the bucket compared to the opportunity.

Strengthening investments in land and water conservation will take time, partnerships, and innovative approaches requiring action at all levels—from individual landowners to local communities to government agencies.

But the effort will be worth it.

Kentucky is fortunate to have abundant natural, agricultural, cultural, and historic landscapes. Unfortunately, the Commonwealth has for too long lagged behind virtually all of its peer states when it comes to making public investments in land and water conservation.

This chronic underinvestment in our natural resources must change, and recent strategic investments made by the Kentucky General Assembly show a growing recognition that conserving Kentucky's lands and waters is not just a "nice to have" — but an essential investment in the state's long-term prosperity.

This report lays out the current status of conservation funding in Kentucky, and builds the case that increased state funding represents an essential investment in securing the healthy, vibrant, and prosperous future all Kentuckians deserve.

Executive Summary

Kentucky has incredible natural resources in its farmland, forests, and waterways. Unfortunately, Kentucky is losing these natural and working lands at an alarming rate and, without significant state investment in conservation, this trend will continue, endangering the diverse benefits these lands and waters provide.

Land conservation supports a growing tourism and outdoor recreation economy. For example, visitors to Kentucky Trail Towns have access to some of the best outdoor amenities in the state, including hundreds of miles of trails, woods, and waters. Out of state visitors to Kentucky spend \$1.3 billion on recreation, accounting for 13 percent of all visitor spending.¹ This spending supports 12,400 jobs and \$315 million in wages. These figures represent recreation spending only and do not include the \$8.4 billion in associated food and beverage, lodging, transportation, and retail spending by visitors.

Hunting, fishing, and wildlife watching depend on publicly accessible lands. Some 4.3 million residents and visitors participate in wildlife recreation, spending \$11.2 billion on these activities.²

Working lands create jobs and support businesses. Dominated by small family farms, agriculture is one of Kentucky's leading industries. Agriculture is responsible for \$49.6 billion of output, 272,000 jobs, and \$10.3 billion in wages annually.³ Forests also play a vital role in local economies and in the lives of citizens. The forest sector contributes \$18.6 billion, 57,000 jobs, and total wages of \$3.9 billion annually.⁴ Both these industries are tied directly to the land, and loss of farmland and forestland threatens their long-term strength and viability.

¹ Recreation includes visitor spending within the arts, entertainment, and recreation sub-sector. Tourism Economics. 2023 Economic Impact of Tourism in Kentucky.

<https://www.kentuckytourism.com/industry/tourism-resources/2023-tourism-economic-impact>

² Expenditure estimates accounted for all items invested by participants for the activities during the year, ranging from trip-related expenses such as fuel, lodging and food, to equipment and clothing, to vehicles or land purchased. U.S. Fish and Wildlife Service. 2022 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation.

<https://www.fws.gov/program/national-survey-fishing-hunting-and-wildlife-associated-recreation-fhwar>

³ Balazs, Simona and Alison Davis. 2022. The Importance of Agriculture for Kentucky. Community and Economic Development Initiative of Kentucky.

⁴ Forestry and Natural Resources Cooperative Extension Service, University of Kentucky. 2024. Kentucky Forest Sector Economic Contribution Report 2022-2023.

Kentucky is the birthplace of bourbon. And this iconic economic and tourism engine relies on Kentucky's agricultural and forest lands and waters. The bourbon industry generates \$9 billion in output, supporting 23,100 jobs, and \$1.63 billion wages.⁵

Conserved lands also provide flood protection. Wetlands, and particularly forested wetlands, perform critical flood control, water storage, erosion reduction, and nutrient filtration functions. Flooding is a persistent and increasingly deadly problem in Kentucky. Tragically in July 2022, when 13 Eastern Kentucky counties were devastated by historic flooding killing at least 45 people and damaging 9,000 homes.⁶

Kentucky lags far behind its peers in providing critical investments in its farmlands and natural lands. Peer states have enacted strong public land conservation programs that are funded through a variety of dedicated funding sources including real estate transfer taxes, bonds, tax credits, portions of state sales taxes or portions of outdoor sporting goods sales tax revenues. Most states utilize more than one funding mechanism for land conservation. This consistent dedicated funding drives more conserved and accessible land in adjacent states than in Kentucky. As such, Kentucky risks losing outdoor recreationists and tourists, and their accompanying dollars, to nearby states like Tennessee, Virginia, and the Carolinas if we cannot offer competitive outdoor recreational opportunities and amenities.

Kentucky's state-funded conservation programs, the Kentucky Heritage Land Conservation Fund (KHLCF) and the Purchase of Agricultural Conservation Easements (PACE) program, were established to recognize the importance of conserving Kentucky's natural landscapes, recreational lands, and working agricultural and forestry lands. Yet these programs have not lived up to their potential due to significant challenges with adequate and consistent funding and resource allocation.

A major benefit of providing increased and dedicated state conservation funding is that such funding enables Kentucky to access federal programs that require state matching dollars. By

⁵ Kentucky Distillers Association. Bourbon 2023 Economic Impact. <https://kybourbon.com/wp-content/uploads/2024/02/Bourbon-Boom-One-Pager-v5.pdf>

⁶ Breathitt, Clay, Floyd, Johnson, Knott, Leslie, Letcher, Magoffin, Martin, Owsley, Perry, Pike and Wolfe Counties were declared federal disaster areas. Childress, Rick, Bill Estep, Valarie Honeycutt Spears, and Hannah Stanley. 2023. Siblings, grandparents, coal miners. These are the 45 victims of the 2022 Eastern KY floods. Lexington Herald Leader. Dixon, Eric and Rebecca Shelton. 2023. Housing Damage from the 2022 Kentucky Flood. Ohio River Valley Institute and Appalachian Citizens' Law Center.

investing more state funding in conservation efforts, Kentucky can access our share of these federal funds and increase the scale and impact of conservation.

There are a variety of options the General Assembly could consider for growing the support for land, water, and wildlife conservation in Kentucky including:

- Implementing an additional document recording fee dedicated to conservation.
- Dedicating a portion of the existing general sales tax for conservation.
- Dedicating the share of the existing general sales tax that comes from the purchase of outdoor sporting goods or similar type of purchase.
- Issuing bonds to fund land conservation (e.g., general obligation bonds).
- Providing income tax credits for voluntary land conservation donations.

The need to invest in land and water conservation and protect critical natural, recreational, and working lands has never been greater. Investing in conservation means future generations will have more public lands for hunting, fishing, and hiking. Investing in conservation ensures high quality farmland will be available for future farmers. Investing in conservation grows outdoor-based and dependent industries. Investing in conservation creates more local parks and preserves for Kentuckians. Investing in conservation supplies cleaner water. Investing in conservation improves quality of life. Investing in conservation reduces risk from floods. Investing in conservation supports a healthy economy and jobs. Investing in conservation produces local food resources. Investing in conservation provides economic growth opportunities in rural communities.

Benefits of Conservation in Kentucky

Land conservation involves more than just preserving Kentucky's land, water, and clean air. It contributes billions of dollars to the Kentucky economy in jobs, sales, tourism, and other revenue. This section summarizes the economic benefits of land conservation in Kentucky drawing from existing research.

Generating Jobs and Strengthening Local Economies

Land conservation contributes to local economies in terms of jobs, business growth, taxes, and other revenue. Outdoor recreation drives many economic benefits, including support for tourism-related businesses and recruiting new residents who may be business owners, entrepreneurs, or workers, supporting growth in earnings per job across a community.⁷ Together these industries employ hundreds of thousands of workers and generate billions in value add in communities across the state, described in detail below.⁸

Outdoor recreation economy

Land conservation supports a thriving tourism and outdoor recreation economy. The outdoor recreation tourism economy includes spending by visitors. Travelers to conserved lands with public access, such as parks and trails, spend money locally supporting local income and jobs. In 2023, out of state visitors to Kentucky spent \$1.3 billion on recreation, accounting for 13 percent of visitor spending.⁹ This spending supported 12,400 jobs and \$315 million in labor income. These figures represent recreation spending only and do not include the \$8.4 billion in associated food and beverage, lodging, transportation, and retail spending by visitors.

⁷ Headwaters Economics. 2019. Recreation Counties Attracting New Residents and Higher Incomes: Recreation, especially in non-metro places, draws residents, higher incomes, and faster earnings growth than places without recreation. <https://headwaterseconomics.org/wp-content/uploads/recreation-counties-attract-report.pdf>.

⁸ Value-added (also known as gross regional product, or GRP) is the sum of labor income, other property income (e.g., rents and profits) and indirect business taxes (e.g., excise and sales taxes). It is the difference between an industry's total output and the cost of its intermediate inputs.

⁹ Recreation includes visitors spending within the arts, entertainment and recreation sub-sector. Tourism Economics. 2023 Economic Impact of Tourism in Kentucky. <https://www.kentuckytourism.com/industry/tourism-resources/2023-tourism-economic-impact>

Kentucky Trail Towns

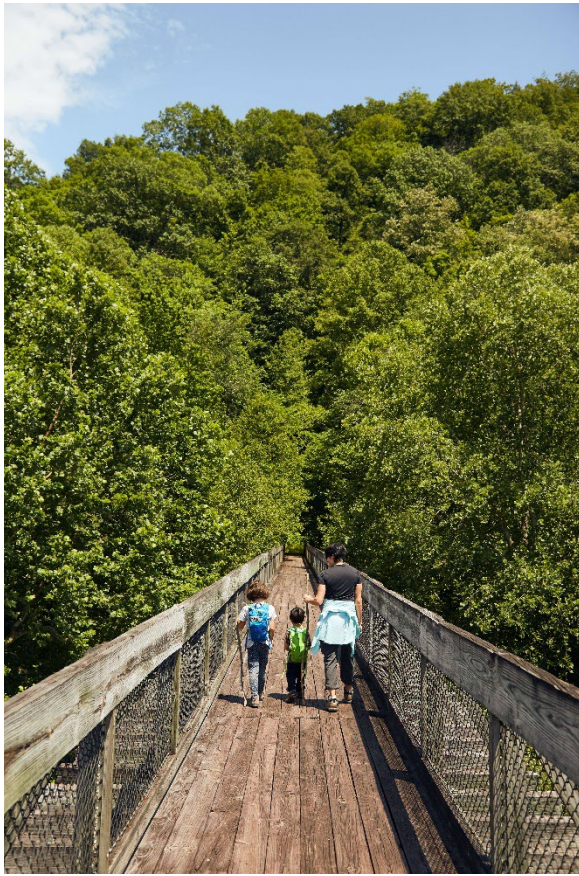


Photo credit: Kentucky Tourism

Source: Kentucky Trail Towns Guide: Where the Outdoors and Amenities Meet. Volume 2.

The Kentucky Tourism, Arts and Heritage Cabinet has designated 24 communities across the commonwealth to serve as official gateways to the great outdoors. To be a certified Kentucky Trail Town, these communities made a commitment to share their area's outdoor opportunities, culture, history, and stories to visitors.

Trail Towns connect visitors to some of the best outdoor amenities in the state, including hundreds of miles of trails, woods and waters, and nearby cities and towns offering hotels, restaurants, attractions, entertainment, and other conveniences.

Trail Towns that benefit from trails on natural areas funded by the Kentucky Heritage Land Conservation Fund include Olive Hill, Campbellsville, Slade, and Elizabethtown.

The overall outdoor recreation economy includes spending by both residents and visitors. According to the Bureau of Economic Analysis outdoor recreation accounted for \$5.1 billion in value added, representing 2.0 percent of the Commonwealth's GDP, and 52,000 jobs.¹⁰

¹⁰ Outdoor recreation spans many activities, from traditional activities like hunting, fishing, camping, and hiking to more casual outdoor activities like gardening and outdoor festivals. BEA defines outdoor recreation to include all recreational activities undertaken for pleasure that generally involve some level of intentional physical exertion and occur in nature-based environments outdoors. A visitor is defined as someone who travels at least 50 miles one way or stays overnight in paid accommodations.

Value-added (also known as gross regional product, or GRP) is the sum of labor income, other property income (e.g., rents and profits) and indirect business taxes (e.g., excise and sales taxes). It is the difference between an industry's total output and the cost of its intermediate inputs.

Hunting, Fishing, and Wildlife-Associated Recreation

Wildlife recreation continues to be a major economic force in Kentucky. The 2022 National Survey of Fishing, Hunting and Wildlife-Associated Recreation estimates that more than 4.3 million people spent \$11.2 billion on fishing, hunting or wildlife watching activities in Kentucky during the calendar year.¹¹ Among Kentucky residents:

- 2.5 million actively observed wildlife (71 percent) spending \$6.4 billion, or \$1,500 each;
- 660,000 fished (19 percent) spending \$2.5 billion, or \$2,600 each; and
- 316,000 hunted (9 percent) spending \$2.3 billion, or \$5,200 each.

With many participating in more than one activity. Nearly 2 million visitors to the state engaged in these same activities.

Publicly accessible lands are critical to these activities. Over one-third (37 percent) of resident hunters use public lands to hunt in Kentucky.¹² The estimated economic impact of public hunting lands in Kentucky is \$182 per acre per year.¹³ Lost access to private hunting and fishing sites has repeatedly been identified by lapsed participants as a top reason for dropping out of these activities. By contrast, active and prospective hunters and anglers have identified public access within an hour's drive from home as the most important factor in continuing or resuming participation.

Bourbon

Kentucky Bourbon's economic and tourism engine relies on Kentucky's agricultural lands and waters. In 2023, distillers purchased 21 million bushels of Kentucky grown corn and grains. The same year the bourbon industry generated \$9 billion in output, and supported more than 23,100 jobs in the commonwealth, with annual salaries and wages of \$1.63 billion.¹⁴ The distilling industry also generated \$358 million in state and local taxes. Bourbon was responsible for 2.5 million visitor experiences, and the Kentucky Distillers Association members project spending at least \$194 million to expand tourism operations on the Kentucky Bourbon Trail®.

U.S. Bureau of Economic Analysis. Outdoor Recreation, U.S. and States 2022. <https://www.bea.gov/data/special-topics/outdoor-recreation>

¹¹ Expenditure estimates accounted for all items invested by participants for the activities during the year, ranging from trip-related expenses such as fuel, lodging and food, to equipment and clothing, to vehicles or land purchased. U.S. Fish and Wildlife Service. 2022 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. <https://www.fws.gov/program/national-survey-fishing-hunting-and-wildlife-associated-recreation-fhwar>

¹² Kentucky Department of Fish and Wildlife Resources. Fish and Wildlife Recreation: A Vital Force for Kentucky's Economy. <https://fw.ky.gov/More/Documents/EconomicImpacts.pdf>

¹³ Accounting for their economic value in terms of tax revenues, retail expenditures and ripple effects.

¹⁴ Kentucky Distillers Association. Bourbon 2023 Economic Impact. <https://kybourbon.com/wp-content/uploads/2024/02/Bourbon-Boom-One-Pager-v5.pdf>



Photo credit: Kentucky Tourism

Creating Jobs and Supporting Businesses That Rely on Working Lands

Land conservation supports the agriculture, agritourism, equine, and forestry sectors which play an important role in the commonwealth's economy.

Farming

Agricultural lands cover nearly half of the commonwealth. Farmland preservation helps sustain the agriculture industry, secures the food supply, and provides an economic stimulus to rural communities. In 2019, total revenue for production agriculture was \$5.6 billion and total employment was 92,000.¹⁵ The agricultural processing sector generated output worth approximately \$25.1 billion and employed 45,000 workers. Total output for the entire agriculture industry was \$31.6 billion, employing 139,000 workers. Agricultural output was about 6.7 percent of total revenue in Kentucky. Including the multiplier effects of how wages and sales flow through the economy, agriculture is responsible for \$49.6 billion of output, 272,000 jobs, and \$10.3 billion in labor income.

Agritourism

Agritourism can be thought of as the crossroads of tourism and agriculture for activities such as pumpkin picking, weddings, tours, concerts, hunting preserves, farmers markets, and farm stays.¹⁶ Kentucky has more than 500 agritourism destinations, providing on-farm experiences for thousands of visitors each year.¹⁷ In 2022, income from farm-related sources totaled \$466 million, an increase of 11 percent from 2017.¹⁸ While this total includes farm-related activities in addition to agritourism it demonstrates the magnitude of the impact agritourism has on the Kentucky economy.¹⁹

¹⁵ Balazs, Simona and Alison Davis. 2022. The Importance of Agriculture for Kentucky. Community and Economic Development Initiative of Kentucky.

¹⁶ Kentucky Department of Agriculture. Agritourism. <https://www.kyagr.com/marketing/agritourism.html>

¹⁷ Kentucky Department of Agriculture. 2021. Kentucky Farms are Fun: 2021 Agritourism Manual & Resource Guide.

¹⁸ U.S. Department of Agriculture National Agricultural Statistics Service. 2022 Census of Agriculture State Profile Kentucky.

https://www.nass.usda.gov/Publications/AgCensus/2022/Online_Resources/County_Profiles/Kentucky/cp99021.pdf

¹⁹ Total income from farm-related sources includes cash rent; crop and livestock insurance payments; custom work such as planting, plowing, and spraying; tobacco quota buyouts; agritourism; and sales of forest products.

Equine Activities

There are 31,000 equine operations throughout Kentucky, which account for 3.5 million acres of land, of which 900,000 acres are devoted to equine-related activities.²⁰ In 2021, equine-related expenditures by equine operations totaled almost \$1.6 billion, and 82 percent of operating expenses were spent in Kentucky. The total value of all equine-related sales and income for equine operations was nearly \$2.1 billion.



Photo credit: Kentucky Tourism

²⁰ Equine operations encompass large breeding farms, show grounds, racetracks, training facilities, property on which equines are kept for personal use and other land with a primary use that may not be equine-related, such as a cattle operation or crop farm, that has equine residing on that operation.

University of Kentucky and Kentucky Horse Council. 2023. 2022 Kentucky Equine Survey: A Comprehensive Statewide Survey of All Breeds of Horses, Ponies, Donkeys and Mules. <https://equine.ca.uky.edu/kyequinesurvey>

Forestry

Forests cover nearly half the state of Kentucky and are the foundation of the forest sector. Of those woodlands, 88 percent are privately owned.²¹ In 2022, the total Kentucky forest sector contribution was \$18.6 billion, with \$12.6 billion in direct economic contributions.²² Forest industries employed 28,000 workers in the forest sector, supporting 57,000 jobs overall. Direct wages were \$2.1 billion, with total labor wages of \$3.9 billion.

The impact of well-managed woodlands can be felt from landowners through production. A woodland owner can generate \$1,354 by harvesting an acre. Logging firms, which are frequently family-owned operations, can see \$543 per acre. Sawmills, many of which are also family-owned, process the harvested timber into products like lumber, crossties, and chipping can generate another \$3,971 from a single acre. Kentucky's secondary wood industries add significant value to processed wood by creating cabinets, flooring, and staves can generate another \$7,721. Kentucky's paper industry uses wood chips from trees lacking lumber potential to create paper products generate \$2,873 per acre. Any wood residue used to create mulch or charcoal generates another \$3,560. In total, from trees to products, more than \$20,000 can be generated from a single acre of woodland.

²¹ University of Kentucky Department of Forestry and Natural Resources. Kentucky Forests Supporting Our Economy. <https://forestry.ca.uky.edu/supporting-our-economy>

²² Forestry and Natural Resources Cooperative Extension Service, University of Kentucky. 2024. Kentucky Forest Sector Economic Contribution Report 2022-2023.

Big Rivers Wildlife Management Area and State Forest



The Big Rivers Wildlife Management Area and State Forest's 6,732 acres of contiguous forest are managed to provide watershed and water quality protection in a critical portion of the Mississippi River Basin. Along the border between Kentucky and Illinois, Big Rivers hosts a portion of six rivers – the Mississippi, Ohio, Tennessee, Green, Tradewater, and Cumberland. A portion of the landscape is managed as a sustainable timber operation. It is also accessible to the public for hunting, fishing, hiking, canoeing, wildlife viewing and other compatible recreational activities.

An investment of \$1 million from the Kentucky Heritage Land Conservation Fund leveraged federal, private, and nonprofit resources including, \$8.35 million from the Forest Legacy Program, \$1.75 million from Duke Energy, \$580,000 from the Imperiled Bat Conservation Fund, and \$50,000 from the Crounse Corporation.

Conservation was possible through partnership including the Kentucky Division of Forestry, Kentucky Department of Fish and Wildlife Resources, Ducks Unlimited, Kentucky Heritage Land Conservation Fund Board, Office of Kentucky Nature Preserves, National Wild Turkey Federation, Quality Deer Management Association, The Conservation Fund, U.S. Fish and Wildlife Service, and The Nature Conservancy.

Providing Ecosystem Services

Some of the key economic benefits of land conservation come in the form of natural goods and services protecting drinking water, naturally infiltrating and managing stormwater, flood control, and other necessary functions. This section describes some of the essential natural goods and services provided by Kentucky's conserved lands.

Protecting Water Quality

Forests and wetlands are an important factor in providing clean water.²³ Natural lands, especially forestland, provide pervious cover that absorbs and filters water. However, impervious cover reduces infiltration of groundwater (i.e., recharge of aquifers). A nationwide study found that groundwater infiltration is reduced by 6.2 billion to 132.8 billion gallons annually per major metropolitan area. In addition, water runoff on impervious surfaces moves quickly toward stream channels resulting in flash flooding and water surges, increasing flood damage and erosional scarring of streams. Because forestland use has the greatest absorption capacity of any land use an increase in forest cover will decrease the amount of stormwater runoff.

The costs of managing and treating wastewater and stormwater in cities throughout the commonwealth are accelerating as the population increases. Forest-related water treatment options are often overlooked and undervalued, however, the value of forest resources as cost-effective water treatment options has been shown throughout the nation. In northern Kentucky, a study by Sanitation District No.1 examined water treatment alternatives to correct stream degradation due to sewer overflows comparing traditional gray controls, such as water treatment plants, storage facilities, and pipe replacement, to green infrastructure and watershed controls, such as retention facilities, wetlands, riparian buffers, reforestation, tree boxes, and rain gardens among other methods. The study found a model combining a low level of gray controls "with a moderate implementation of green and watershed controls yields greater overall benefits as compared to a gray-only program at a higher level of overflow control." It also concluded, "green and watershed controls can provide substantial improvements in water quality relative to their cost."²⁴

²³ Kentucky Division of Forestry. 2020. Kentucky Forest Action Plan: A Comprehensive Strategy for Forest Resource Sustainability.

²⁴ Sanitation District No. 1. 2009. Watershed Plans For Northern Kentucky. <https://www.sd1.org/>

Tebb's Bend

The Tebb's Bend habitat restoration project was initiated by the Nature Conservancy and Taylor County purchased the property and it is part of the larger Upper Green River Watershed Project which seeks to protect this watershed and provide for passive public recreation. The land was originally approximately 40 percent in upland forests on the ridgetops overlooking the Green River and the remainder was in agricultural cropland. Today this natural area, which contains approximately one mile of river frontage on a bend of Green and an island, still protects the ridgetop forests but also has 40 acres seeded to native grasses including Indian grass, big bluestem and little bluestem, 55 acres planted to bottomland hardwood forest with pin oak, bur and swamp chestnut oak, black walnut, white ash, and a 12-acre restored wetland. There is also a cave on the property that has been mildly impacted with respect to water quality and supports at least 23 taxa of aquatic insects. In the river, seven mussel species have been documented including the federally endangered clubshell. More than 65 bird species have also been documented from the natural area.

The riparian forest along the river is dominated by silver maple, box elder, and shagbark hickory with sycamore and American elm as co-dominants. There is also some American beech, northern red oak, sassafras and flowering dogwood in the plant community. As the forests transition to the ridgetop upland forest hop hornbeam, black cherry, pecan, sweet gum, and witch hazel are found in abundance. The upland ridgetops are classified as calcareous mesophytic forest dominated by sugar maple, American elm, Ohio buckeye, box elder, and hackberry with an understory of bladdernut, spicebush and some native canebreaks. As with most rich mesic forests, the spring floral display can be outstanding with alumroot, bloodroot, blue phlox, wood poppy, columbine, fire pink, jack in pulpit, dwarf larkspur, false Solomon seal, sessile trillium, wild ginger, and Virginia bluebells proliferating.

The county has developed four hiking trails, mostly easy or moderate in nature, to allow the public to observe the differing habitats and wildlife found in the natural area. In addition to the ecological significance of the site, it also has historical significance and part of Civil War driving trail is on Tebb's bend road. There is also an 11.6 acre field which served as a campsite for the 25th Michigan Infantry and the banks of the river were used for loading and unloading supplies. There are also numerous signs showing troop movements that were associated with the Battle of Tebb's Bend which was further down the ridge south of the bridge. The iron bridge which crosses the river was constructed after two covered bridges were burned, one by John Hunt Morgan's Kentucky Confederate cavalry troops and another in 1907. Today a modern concrete bridge crosses the green.



Photo credit: Zeb Weese

Preventing and Controlling Flooding

Flooding is a persistent and increasingly deadly problem in Kentucky. Most recently in July 2022, when 13 Eastern Kentucky counties were devastated by historic flooding killing at least 45 people.²⁵ Approximately 9,000 homes were damaged, and the estimated cost to rebuild those homes is between \$450 million to \$950 million.²⁶ Eight of the nine U.S. counties with the most declared federal disaster areas are in Kentucky, since 2011.²⁷ From 2000 to 2019, flooding in Kentucky resulted in 72 deaths and \$500 million in total losses.²⁸

²⁵ Breathitt, Clay, Floyd, Johnson, Knott, Leslie, Letcher, Magoffin, Martin, Owsley, Perry, Pike and Wolfe Counties were declared federal disaster areas.

Childress, Rick, Bill Estep, Valarie Honeycutt Spears, and Hannah Stanley. 2023. Siblings, grandparents, coal miners. These are the 45 victims of the 2022 Eastern KY floods. Lexington Herald Leader.

²⁶ Dixon, Eric and Rebecca Shelton. 2023. Housing Damage from the 2022 Kentucky Flood. Ohio River Valley Institute and Appalachian Citizens' Law Center.

²⁷ Rebuild by Design. Atlas of Accountability (2011-2023). <https://rebuildbydesign.org/atlas-of-disaster/2/>

²⁸ Hazards and Vulnerability Research Institute. 2022. How Hazardous is Your State? https://public.tableau.com/app/profile/hvri/viz/Haz_Dash_New/FinalCompleteDashboard.

Wetlands, and particularly forested wetlands, perform critical flood control, water storage, erosion reduction, and nutrient filtration functions.²⁹ The loss of these wetland areas has been detrimental to the overall water quality of the commonwealth. According to one estimate an acre of wetland can store as much as 1 to 1.5 million gallons of floodwater.³⁰ The loss of bottomland hardwood wetland forests has reduced floodwater storage capacity and resulted in more frequent flooding damage.³¹

Improving Air Quality

Air pollution is a significant and expensive problem that injures human health and damages structures. Human cardiovascular and respiratory systems are affected, with broad consequences for health care costs and productivity.³² In addition, acid rain, smog, and ozone increase the need to clean and repair buildings and other infrastructure.³³ The vegetation in conserved lands plays a role in improving air quality, helping nearby areas avoid the costs associated with pollution.³⁴ Trees and shrubs have the ability to remove pollutants from the air. Leaves absorb gases such as nitrogen dioxide, sulfur dioxide, carbon monoxide, and ozone. As it adheres to plant surfaces, particulate matter, which includes small particles of dust, metals, chemicals, and acids, can also be removed. An acre of mature trees can absorb an equivalent amount of carbon dioxide as a car driving 26,000 miles each year, as well as absorbing other pollutants including ozone, particulate matter, sulfur dioxide, nitrogen monoxide, and carbon monoxide.³⁵ Breathing air pollutants, including fine particles and ozone, can lead to premature death, nonfatal heart attacks, aggravated asthma, and lost days of work and school.³⁶

²⁹ Kentucky Division of Forestry. 2020. Kentucky Forest Action Plan: A Comprehensive Strategy for Forest Resource Sustainability.

³⁰ U.S. Environmental Protection Agency. 2001. "Functions and Values of Wetlands." Office of Water, Office of Wetlands, Oceans, and Watersheds. EPA 843-F-01-002c.

³¹ U.S. Environmental Protection Agency. 1995. "America's Wetlands: Our Vital Link Between Land and Water." Office of Water, Office of Wetlands, Oceans, and Watersheds.

³² Kampa, M. and E. Castanas. 2007. "Human Health Effects of Air Pollution," *Environmental Pollution* 151: 362–367; Currie, J. 2013. "Pollution and Infant Health," *Child Development Perspectives* 7: 237–242.

³³ Butlin, R. 1990. "Effects of Air Pollutants on Buildings and Materials," *Proceedings of the Royal Society of Edinburgh. Section B. Biological Sciences* 97: 255–272; U.S. Environmental Protection Agency. 2007. *The Plain English Guide to the Clean Air Act*, EPA-456/K-07-001, Office of Air Quality Planning and Statistics, 2007.

³⁴ Nowak, D., S. Hirabayashi, A. Bodine, and R. Hoehn. 2013. "Modeled PM_{2.5} Removal by Trees in Ten U.S. Cities and Associated Health Effects," *Environmental Pollution* 178: 395–402.

³⁵ Southeast Watershed Forum. 2005. *The Value of Community Trees*. www.southeastwatershedforum.org

³⁶ U.S. Environmental Protection Agency. Benefits Mapping and Analysis Program: How BenMAP-CE Estimates the Health and Economic Effects of Air Pollution. <https://www.epa.gov/benmap>

Naturally Moderating Temperature

Studies have shown that trees around residences keep homes cooler in the summer and warmer in the winter which reduces cooling and heating costs and improves human health and comfort.³⁷ The phenomenon of urban areas experiencing elevated temperatures relative to surrounding non-urbanized areas due to alteration of natural land-cover is known as the Urban Heat Island. Less attention has been given to temperature elevations in low density residential areas, but trees significantly reduce temperatures even in low-density residential areas.

Extreme heat also causes a range of health problems including heat exhaustion, heat stroke, even death. In the Southeast, an estimated 813 deaths are attributable to heat annually.³⁸ Many of these premature deaths are preventable by simply increasing tree canopy cover.³⁹ This is especially important for households that lack access to air conditioning.

Sustaining Local Communities and Residents

Land conservation improves quality of life for residents. Employees in today's economy consider more than salary when choosing where to work and reside. For example, focus groups conducted by Carnegie Mellon University have found that young creative workers, particularly those in high-technology fields, consider lifestyle factors, such as environmental and recreational quality, more heavily than the job itself when choosing where to live. Additional research on local economic development has focused on quality of life and concerns about the natural, social, and cultural environment as well as on lifestyle affordability. Conserved land contributes to local economic development by making communities more attractive to new residents while also providing low-cost opportunities for recreation and improving health, including reducing air pollution, and moderating temperature for all residents.

Avoiding Costs of Community Services

Protecting farmland and open space saves local governments money. Residential development imposes costs on communities in the form of increased demand for schools, roads, water, sewer and other community services – costs that usually exceed related tax revenue. Studies of Kentucky counties consistently show that unlike residential land, farmland and open space

³⁷ Elmes, A., J. Rogan, C. Williams, S. Ratick, D. Nowak, and D. Martin. 2017. Effects of urban tree canopy loss on land surface temperature magnitude and timing. *ISPRS Journal of Photogrammetry and Remote Sensing*. 128

³⁸ Weinberger, K. et al., 2020. Estimating the Number of Excess Deaths Attributable to Heat in 297 United States Counties. *Environmental Epidemiology* 4, no. 3.

³⁹ Kondo, M. et. al. 2020. Heat Impact Assessments of Philadelphia's 2025 Tree Canopy Cover Goals. *Lancet Plant Health*. 4. April 2020.

generate more in public revenues than they receive back in public services. For example, for every \$1 paid in local taxes, working and open land in three Kentucky counties (Campbell, Kenton, and Shelby) required an average of \$0.43 in services compared to an average of \$1.20 in services for the average home.⁴⁰ American Farmland Trust found that across 151 communities nationwide residential development is a net fiscal loss for communities.⁴¹ That is, for every \$1 in property tax revenues it generates, residential development requires \$1.16 in services (median value), while working and open lands require \$0.37 in services. A meta-analysis of 125 cost of community services studies across the country again found that residential land uses tend to have ratios greater than one, while commercial/industrial and agricultural/open-space land uses tend to have ratios less than one.⁴²

Enhancing Home Values

Conserved lands have a positive impact on nearby home values and associated property tax revenues.⁴³ Vacant land that shares a border with a conserved parcel, through either fee simple or conservation easement, increases in value by 46 percent.⁴⁴ This benefit declines with distance, although the rate of decline is less with conservation easements. In addition, the study found separate, positive price effects from new land conservation of 3 percent for property that is within view. Open space acquisitions increase home values across a municipality. An average expenditure on open space of \$162 per housing unit, was found to increase the average house price by 0.6 percent during the study period, even when controlling for other market forces.⁴⁵ Another national study that found positive impacts of open space expenditures on municipal home values investigated whether this increase in home price was due to the supply of

⁴⁰ American Farmland Trust. 2010. Cost of Community Services Fact Sheet. Farmland Information Center, Northampton, Massachusetts.

⁴¹ Farmland Information Center. 2016. Cost of Community Services Studies. Partnership between the U.S. Department of Agriculture Natural Resources Conservation Service and American Farmland Trust.

⁴² Kotchen, M. and S. Stacey. 2009. A Meta-Analysis of Cost of Community Services Studies. *International Regional Science Review* 32(3):376-399.

⁴³ Many studies have shown the positive impact of land conservation on property values, for example: Anderson, S., and S. West, 2006. Open space, residential property values, and spatial context. *Regional Science and Urban Economics* 36, 773–789; Geoghegan, J., L. Lynch, S. Bucholtz, 2003. Capitalization of Open Spaces into Housing Values and the Residential Property Tax Revenue Impacts of Agricultural Easement Programs. *Agricultural and Resource Economics Review* 32, 33–45; Irwin, E., 2002. The effects of open space on residential property values. *Land Economics* 78, 465–480; Thorsnes, P., 2002. The value of a suburban forest preserve: Estimates from sales of vacant residential building lots. *Land Economics* 78, 426–441.

⁴⁴ Chamblee, J., P. Colwell, C. Dehring, and C. Depken, 2011. The effect of conservation activity on surrounding land prices. *Land Economics* 87, 453–472.

⁴⁵ Vandegrift, D., and M. Lahr, 2011. Open space, house prices, and the tax base. *Annals of Regional Science* 46, 83–100.

developable land being more restricted due to land conservation.⁴⁶ It found that across 710 municipalities from 1997 to 2013, open space spending did not affect new development, as measured by annual number of new housing units permitted.

Enabling Recreation

Conserved lands with public access allow for and encourage recreational use by residents. The most recent State Comprehensive Outdoor Recreation Plan (SCORP) provides helpful context about the recreational use and needs of residents, highlights of which are included here.⁴⁷

- The top five activities include:
 - Visiting a beach or a lake or a river
 - Walking for pleasure or exercise or leisure
 - Visiting parks or historical sites as an individual or as a group
 - Viewing scenery
 - Outdoor fairs or festivals
- Most participate in outdoor activities at local parks (e.g., city or county) or state parks, forests, or state historic sites. With participants visiting local parks at a much higher frequency.
- Most residents think the government should spend public funds to acquire more land and future develop recreational facilities.

⁴⁶ Lang, C., 2018. Assessing the efficiency of local open space provision. *Journal of Public Economics* 158, 12–24.

⁴⁷ Department for Local Government Federal Grant Division. Kentucky Outdoor Recreation Plan 2020-2025. October 2019.

Pine Mountain (Eastern Kentucky)



Pine Mountain State Resort Park at Pineville (Bell County)
~ photo by Ted Wathen, KY Documentary Photographic Project

Pine Mountain spans more than 125 miles from Tennessee through Kentucky (Whitley, Bell, Harlan, Letcher, and Pike Counties) to Virginia and forms the first of the Appalachian ridges. Nearly 40 percent of Pine Mountain (71,500 acres) is conserved by a matrix of government and nonprofit conservation lands including nature preserves, national forests, state forests, state parks, and wildlife management areas.

The mountain provides recreation access for local communities as well as for the emerging outdoor economy of the region. It is noteworthy for being home to Kentucky's first state park, Pine Mountain State Resort Park, as well as being a key link in the Great Eastern Trail (an 1,800-mile hiking trail from New York to Alabama). Communities from Pineville to Harlan to Whitesburg are closely associated with the Pine Mountain landscape.

There are thousands of plant and animal species that depend upon Pine Mountain including nearly 200 species which are considered rare and some that occur nowhere else in the world. The streams that flow off the mountain are part of the headwaters of the Kentucky, Cumberland, and Big Sandy Rivers. In recent years, American black bears have returned to Kentucky thanks to the conservation lands along Pine Mountain.

The Pine Mountain is the result of broad public-private partnerships between state agencies (Office of KY Nature Preserves, KY Department of Parks, KY Division of Forestry, KY Department of Fish and Wildlife Resources), federal agencies (U.S. Forest Service), and nonprofit organizations (Kentucky Natural Lands Trust, Pine Mountain Settlement School, Pine Mountain Trail Conference, The Nature Conservancy).

Providing Health Care Cost Savings

Conserved lands provide numerous health benefits. Research indicates that people with access to the outdoors show long term health improvement. For example,

- Nature reduces symptoms of attention-deficit disorder⁴⁸ and post-traumatic stress disorder,⁴⁹ and improves mental health.⁵⁰
- Spending just 20 minutes connecting with nature can help lower stress hormone levels.⁵¹
- Access to parks and recreational resources can reduce child obesity.⁵²
- Proximity to more green space is associated with reduced mortality and increased longevity.⁵³ For example, women living with a higher amount of greenness around their homes had a 12 percent lower rate of death from non-accidental causes compared to women living with the least amount of greenness. Another study found a reduced COVID-19 mortality rate with higher greenspace access.⁵⁴

Recreational use by residents improves health and reduces health care spending. The Centers for Disease Control and Prevention (CDC) recognizes that physical activity helps improve overall health and reduces the risk for chronic diseases. As such, the CDC promotes physical activity guidelines, defining sufficient activity as at least 150 minutes of moderate-intensity activity per week or at least 75 minutes of vigorous-intensity activity per week, along with muscle-

⁴⁸ Kuo, F. and A. Faber Taylor. 2004. A Potential Natural Treatment for Attention-Deficit/Hyperactivity Disorder: Evidence from a National Study. *American Journal of Public Health* 94, no. 9.

⁴⁹ Anderson, C., M. Monroy, and D. Keltner. 2018. Awe in Nature Heals: Evidence from Military Veterans, At-Risk Youth, and College Students. *Emotion* 18, no. 8.

⁵⁰ Alcock, I., M. White, B. Wheeler, L. Fleming, and M. Depledge. 2014. Longitudinal Effects on Mental Health of Moving to Greener and Less Green Urban Areas. *Environmental Science and Technology* 48, no. 2 (2014): 1247–1255; Astell-Burt, T. R. Mitchell, and T. Hartig. 2014. The Association Between Green Space and Mental Health Varies Across the Lifecourse. A Longitudinal Study. *Journal Epidemiology and Community Health*. 68, no. 6 June 2014; Kuo, M. 2015. How Might Contact with Nature Promote Human Health? Promising Mechanisms and a Possible Central Pathway. *Frontiers in Psychology* 6 2015: 1–8; Marselle, M., K. Irvine, and S. Warber, 2014. Examining Group Walks in Nature and Multiple Aspects of Well Being: A Large-Scale Study. *Ecopsychology* 6, no. 3 2014: 134–147; Sturm, R. and D. Cohen. 2014. Proximity to Urban Parks and Mental Health. *Journal of Mental Health Policy and Economics* 17, no. 1 2014: 19–24.

⁵¹ Harvard Medical School, Harvard Health Publishing, Mind & Mood: A 20-Minute Nature Break Relieves Stress. Accessed January 19, 2022, <https://www.health.harvard.edu/mind-and-mood/a-20-minute-nature-break-relievesstress>.

⁵² Wolch, J. et al. 2011 Childhood Obesity and Proximity to Urban Parks and Recreational Resources: A Longitudinal Cohort Study, *Health & Place* 17, no. 1; Veugelers, P., F. Sithole, and S. Zhang. 2008. Neighborhood Characteristics in Relation to Diet, Physical Activity and Overweight of Canadian Children. *International Journal of Pediatric Obesity* 3: 152–159.

⁵³ James, P., J. Hart, R. Banay, and F. Laden. 2016. Exposure to Greenness and Mortality in a Nationwide Prospective Cohort Study of Women. *Environmental Health Perspectives* 124, no. 9 2016: 1344–1352; Ji, J. et al. 2019. “Residential Greenness and Mortality in Oldest-Old Women and Men in China: A Longitudinal Cohort Study,” *Lancet Planetary Health* 3, no.1.

⁵⁴ Russette, H. et al. 2021. Greenspace Exposure and COVID-19 Mortality in the United States: January-July 2020. *Environmental Research*. Volume 198.

strengthening activities at least two days per week.⁵⁵ Local publicly accessible open space can provide residents with the opportunity to engage in active recreation that improves their health and reduces health care spending.

Kentucky's Natural and Cultural Resources

To assess the benefits and future needs for conservation in Kentucky, it is important to take stock of the commonwealth's current natural and cultural resource base.⁵⁶ This section provides a brief overview and assessment of the key features and status of Kentucky's working lands, managed lands, water resources, and permanently protected lands.

Working Lands

Kentucky is 40,408 square miles (or 25,861,120 acres) and is 379 miles long by 170 miles wide.⁵⁷ The largest land uses in Kentucky agriculture and forestry. Kentucky's 69,1400 farms cover 12.4 million acres, making up 48 percent of Kentucky's total land acreage.⁵⁸ With roughly the same amount of forestland, which is 12.4 million acres of forest or 48 percent.⁵⁹ Nearly all these working lands are privately owned.⁶⁰

Managed Lands

The Kentucky Division of Forestry manages 39,946 acres within seven separate state forests.⁶¹ In addition, the U.S. Forest Service (USFS) manages Daniel Boone National Forest and Land Between the Lakes National Recreation Area. The Daniel Boone National Forest manages more than 708,000 acres of national forest system lands within a 2.1-million-acre proclamation

⁵⁵ Centers for Disease Control and Prevention, "How Much Physical Activity Do Adults Need?"

⁵⁶ Kentucky Department of Fish and Wildlife Resources. Kentucky's State Wildlife Action Plan. September 2023.

⁵⁷ Department for Local Government Federal Grant Division. Kentucky Outdoor Recreation Plan 2020-2025. October 2019.

⁵⁸ U.S. Department of Agriculture National Agricultural Statistics Service. 2023 State Agriculture Overview Kentucky. https://www.nass.usda.gov/Quick_Stats/Ag_Overview/stateOverview.php?state=KENTUCKY

⁵⁹ Kentucky Energy and Environment Cabinet. Forest Facts. <https://eec.ky.gov/Natural-Resources/Forestry/Pages/Forest-Facts.aspx>

⁶⁰ 88 percent of Kentucky's forestland is owned by private landowners.

⁶¹ Kentucky Department of Fish and Wildlife Resources. Kentucky's State Wildlife Action Plan. September 2023.

boundary.⁶² The Land Between the Lakes National Recreation Area is a 170,000-acre inland peninsula, with approximately 110,000 acres in Kentucky and 60,000 acres in Tennessee.⁶³

The Kentucky Department of Fish and Wildlife Resources is responsible for managing wildlife species and licensing hunters. Kentucky's public-use lands total over 9.6 million acres (6.3 percent of the state). All managed areas are open at least part of the year to hunting, as well as for hiking, picnicking, and other passive recreation. In addition, many private landowners open their land to responsible hunters. There are 80 wildlife management areas (WMA's) for public use.

The National Park Service operates three park facilities and one national recreation area in the Kentucky, including Mammoth Cave National Park, Cumberland Gap National Historical Park, and Big South Fork National River and Recreation Area, covering approximately 96,000 acres.

Kentucky State Parks operates 45 state parks, including resort parks, historic sites, golf courses, pools and beaches, marinas, and campgrounds, over 48,000 acres offering 300 miles of hiking trails.⁶⁴ Visitors have access to outdoor recreational activities, including hiking, biking and horseback riding.

The Office of Kentucky Nature Preserves owns 27,000 acres of nature preserves, wild rivers, and heritage lands.⁶⁵ Including 19,880 acres in 39 State Nature Preserves, 8,090 acres owned by in 13 State Natural Areas. Nature Preserves programs also include 7,140 acres owned by partnering agencies in 18 State Nature Preserves, 13,710 acres of conservation easements owned by local concerns in 61 Natural Areas, 71,600 acres of deed restrictions owned by other state agencies in 26 Natural Areas, 9,220 acres owned by private landowners and other agencies in 77 Natural Areas, and 26,960 acres owned by private landowners and other agencies in 9 Wild Rivers Corridors. Lands are open to outdoor recreation such as fishing, paddling, hiking, environmental education, and scientific research.

⁶² U.S. Forest Service. Daniel Boone National Forest.

<https://www.fs.usda.gov/dbnf#:~:text=Steep%20forested%20slopes%2C%20sandstone%20cliffs%20and%20narrow%20ravines%20await!&text=Spread%20across%2021%20counties%20of,2.1%20million%2Dacre%20proclamation%20boundary.>

⁶³ U.S. Forest Service. Land Between the Lakes National Recreation Area FAQ.

<https://landbetweenthelakes.us/faq#:~:text=How%20big%20is%20Land%20Between,in%20the%20southeastern%20United%20States.>

⁶⁴ Kentucky State Parks. State Parks Overview.

<https://apps.legislature.ky.gov/CommitteeDocuments/306/14095/KY%20State%20Parks%20Overview.pdf>

⁶⁵ Office of Kentucky Nature Preserves. Conserving Kentucky's Natural Heritage. <https://eec.ky.gov/Nature-Preserves/Pages/default.aspx>

Water Resources

Kentucky has an abundance of surface and groundwater resources, with 13 major river basins, containing more than 90,000 miles of surface streams, over 229,000 acres of lakes and reservoirs, and extensive underground stream systems.⁶⁶ Surface sources provide about 95 percent of the total water used in Kentucky, including the domestic water supply for 92 percent of Kentucky's urban population and about half of the rural population.⁶⁷

Permanently Protected Conservation Land

Permanently protected conservation land is a subset of all the categories described above. It includes federal, state, local, and private lands that have been permanently protected and managed for conservation purposes. The Office of Kentucky Nature Preserves estimates that roughly 6.6 percent (or 1,680,000 acres) of Kentucky should be considered permanently protected conservation land.⁶⁸ The bulk of that (roughly 990,000 acres) is in federal ownership.

This estimate does not include military installations, recreational parks, historic sites, reservoirs, fish hatcheries, properties managed by the state for hunting/recreation under short or long-term lease agreements, or other similar areas.⁶⁹ While these tracts may provide a temporary or partial conservation value, they do not meet the threshold of permanently protected conservation land.

⁶⁶ University of Kentucky, Kentucky Geological Survey. Water Fact Sheet.
https://www.uky.edu/KGS/education/factsheet/factsheet_water.pdf

Kentucky Department of Fish and Wildlife Resources. Kentucky's State Wildlife Action Plan. September 2023.

⁶⁷ Kentucky Energy and Environment Cabinet, Department of Environmental Protection, Division of Water, Water Quality Branch. 2023. 2022 Integrated Report to Congress on the Condition of Water Resources in Kentucky.

⁶⁸ Email communication from Zack Couch, Executive Director of the Office of Kentucky Nature Preserves on September 3, 2024.

⁶⁹ Acreage outside of Kentucky's boundary were excluded from interstate conservation lands (e.g., Land Between the Lakes, Big South Fork National Recreation Area, Cumberland Gap National Park, etc.). Double counting of lands enrolled in the Wetland Reserve Program were excluded by using data obtained from the National Conservation Easement Database.

The Threats to Kentucky's Natural Resources

The continuing need and demand for land conservation in Kentucky are driven by conversion and fragmentation pressure on farms and forest lands.

Threats to Farms

Over the last 20 years, Kentucky has lost 1.4 million acres of farmland, 10 percent, and 17,000 farms, 20 percent, throughout the state.⁷⁰ This trend is forecast to continue.⁷¹ Another 3,200 farms, an additional 4 percent, and 456,500 acres, an additional 4 percent, could be lost by the year 2040 if development follows recent patterns of low-density residential development with scattered subdivisions and large-lot housing.⁷² This includes 176,300 acres of cropland, 178,300 acres of pastureland, and 101,900 acres of woodland associated with farms. Land conversion is expected to occur across the state.⁷³ Low density residential development fragments the agricultural land base and limits production, marketing, and management options for the working farms that remain. Putting \$183 million in farm output and 7,600 jobs at risk.

Threats to Forests

Most of Kentucky's forests privately owned and are threatened by both loss and fragmentation.⁷⁴ From 2010 to 2016, 31,160 forested acres were lost, an estimated 12 acres every day. Forest loss is most often from development and surface mining. Surface coal mining removes the forests growing on top of the mountain to reach the coal supply.⁷⁵ Approximately 370,808 acres of Kentucky's eastern coalfields are permitted for mining, and 40,673 acres in

⁷⁰ U.S. Department of Agriculture National Agricultural Statistics Service, 2022 Census of Agriculture.
<https://www.nass.usda.gov/AgCensus/>

⁷¹ American Farmland Trust. 2020. Farms Under Threat. The State of the States Agricultural Land Conversion Highlight Summary Kentucky. <https://csp-fut.appspot.com/>

⁷² Hunter, M., A. Sorensen, T. Nogueira-McRae, S. Beck, S. Shutts, R. Murphy. 2022. Farms Under Threat 2040: Choosing an Abundant Future. Washington, D.C.: American Farmland Trust.

⁷³ American Farmland Trust. 2022. Farms Under Threat 2040: The State of the States Agricultural Land Conversion Highlight Summary Kentucky.
<https://development2040.farmland.org/>

⁷⁴ Forest loss is the conversion of forestland to some other land use. Fragmentation is the process by which large continuous tracts of forestland are broken into smaller, disconnected units.
Kentucky Division of Forestry. 2020. Kentucky Forest Action Plan: A Comprehensive Strategy for Forest Resource Sustainability.

⁷⁵ The forest impacts through loss and fragmentation are addressed through regulations which requires reclamation of mining sites after projects have been completed. However, the forest benefits are lost in the lag between the restoration and the impacts. The reclaimed forests may also be of a different species composition and structure than the original forest.

Kentucky's western coalfields are permitted for mining. The loss of forest acreage during fragmentation may be lower, but the impacts can have major implications for forest ecosystems, forest health, and forest sustainability.⁷⁶ Fragmentation typically results from road construction, urban development, utility corridors, agriculture, and other development or disturbance. As these non-forest patches expand over time, the forest is reduced to disconnected islands. The surrounding non-forest land uses threaten the function, health, and value of the forest that remains.

Threats to Water

Nonpoint sources of pollution related to land use threaten surface water. Nonpoint sources pollute roughly 3.5 times as many miles of stream as point sources.⁷⁷ The primary sources of nonpoint source pollution are related to mining (31 percent), agriculture (29 percent), land disposal/septic systems (20 percent), and urban runoff (10 percent). Municipal sewage treatment plants account for most of the point sources of surface water pollution (70 percent).

Groundwater in Kentucky is impacted by pollution from unplugged oil and gas wells, septic tanks, underground storage tanks, inactive landfills, dumps, hazardous waste handling facilities, and injection wells associated with the production of oil or natural gas.

This pollution is resulting in water quality impairments in Kentucky's water bodies. The most recent assessment of the condition of water resources finds 1,903 rivers/streams are impaired totaling 9,111 river miles, 65 lakes/reservoirs are impaired totaling 185,922 acres, and 11 springs are impaired totaling 86,074 acres.

Many conservation measures on natural and working lands offer effective strategies for protecting water quality by controlling and filtering runoff. For example, maintaining and protecting streamside forests and vegetation or installing natural systems to capture stormwater help to remove pollutants from runoff.

⁷⁶ Hurd, James, Emily Hoffhine, and Daniel L. Civco. 2002. Development of a forest fragmentation index to quantify the rate of forest change. ASPRS-ACSM Annual Conference and FIG XXII Congress.

⁷⁷ Kentucky Energy and Environment Cabinet, Department of Environmental Protection, Division of Water, Water Quality Branch. 2023. 2022 Integrated Report to Congress on the Condition of Water Resources in Kentucky.

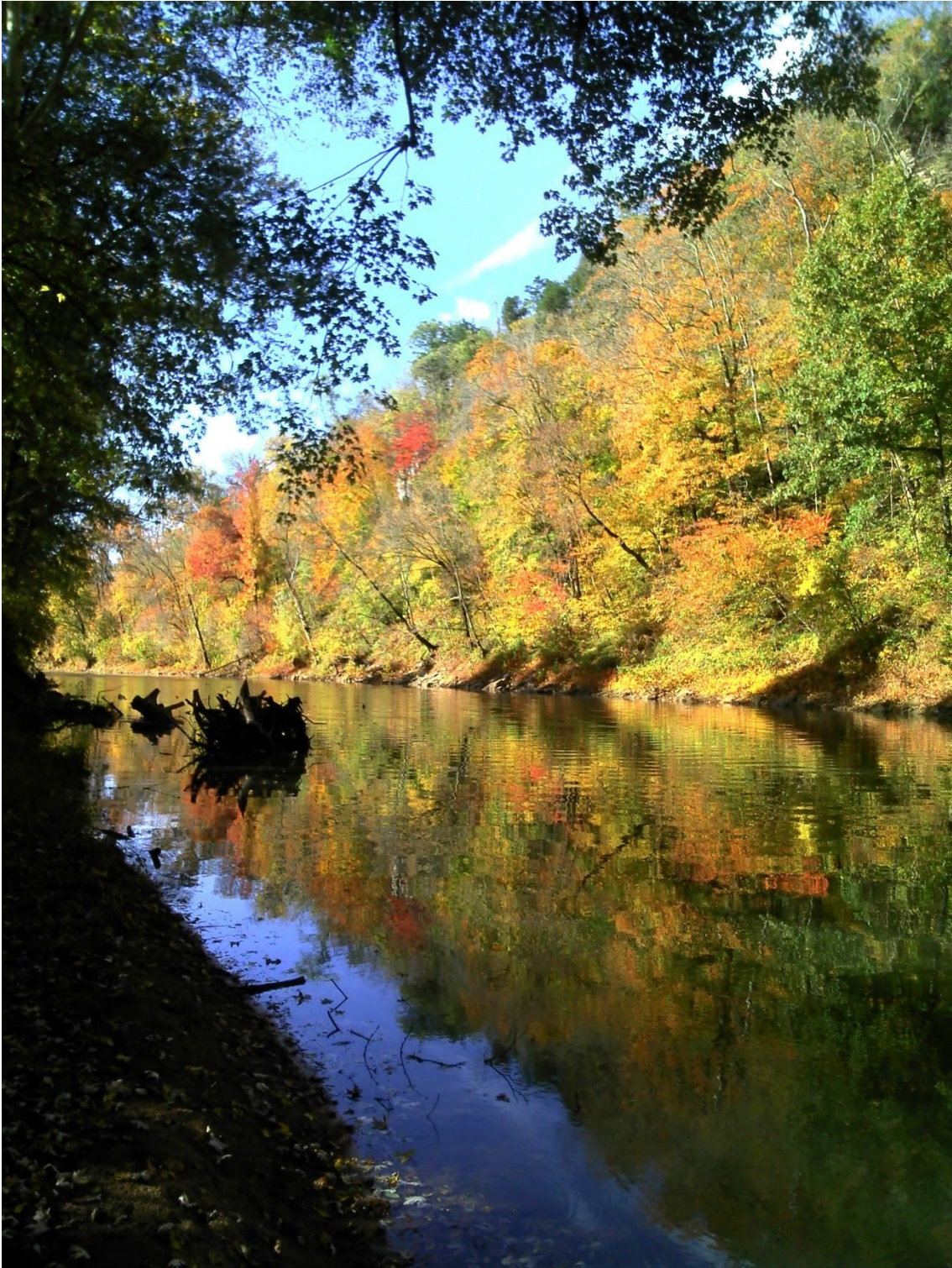


Photo credit: Zeb Weese

State Funded Conservation Programs

Kentucky established two conservation funding programs in the 1990's but funding has been inconsistent over time. The Kentucky Heritage Land Conservation Fund (KHLCF) is the only state program currently funding the conservation of Kentucky's key natural areas. The Purchase of Agricultural Conservation Easements (PACE) program dedicated for farmland conservation is unfunded and only accepting donated conservation easements at this time.

What Tools Are Currently Available for Conservation?

Land Acquisition

The most direct way to protect natural or culturally significant lands from development is by purchasing the land outright, which is often referred to as a "fee-simple" purchase. In many cases, the acquired lands become publicly owned and managed by the state, such as state parks and game lands. In other cases, the state provides financial assistance to private nonprofit conservation organizations (land trusts) or to local governments to acquire and manage natural lands.

Conservation Easements

This type of legal agreement separates specific property rights (i.e., those that conflict with conservation objectives) from the landowner. Typically, the owner forgoes the right to develop the land for commercial or industrial purposes but otherwise retains use and oversight of the land. In many cases, working land activities such as farming and forestry are allowed to continue.

Kentucky Heritage Land Conservation Fund

The KHLCF is the primary source of state funding for the purchase and management of natural areas.⁷⁸ Established in 1990, it is used for nature preserves, state parks, state forests, wildlife management areas, environmental education areas, wild rivers, and wetlands. Priorities established by the enabling legislation include:

- Areas to be preserved in their natural state for public use, outdoor recreation and education.
- Areas that perform important natural functions that are subject to alteration or loss.

⁷⁸ Kentucky Energy and Environment Cabinet. Kentucky Heritage Land Conservation Fund. https://eec.ky.gov/Nature-Preserves/conserving_natural_areas/KHLCF/Pages/heritage-land-conservation-fund.aspx

- Areas that are a habitat for rare and endangered species.
- Areas important to migratory birds.

These funds are distributed 50 percent to private, nonprofit land trust organizations,⁷⁹ local governments, colleges, universities, and other agencies, 10 percent to the Kentucky Department of Fish and Wildlife Resources, 10 percent to the Department of Parks, 10 percent to Office of Kentucky Nature Preserves, 10 percent to the Kentucky Wild Rivers Program, and 10 percent to the Kentucky Division of Forestry.

Since 1995, KHLCF has funded 174 projects conserving nearly 96,000 acres (equivalent to less than 0.4 percent of Kentucky) across 67 counties.⁸⁰ Exhibit 1 provides KHLCF number of projects, acres conserved, and funding amount by applicant type. The Kentucky Department of Fish and Wildlife Resources has conserved the most acres (40,701 acres) with KHLCF, while the Office of Kentucky Nature Preserves has completed the most projects (49 projects totaling 11,788 acres). All lands are purchased from willing sellers and protected in perpetuity with a state held conservation easement or deed restriction.

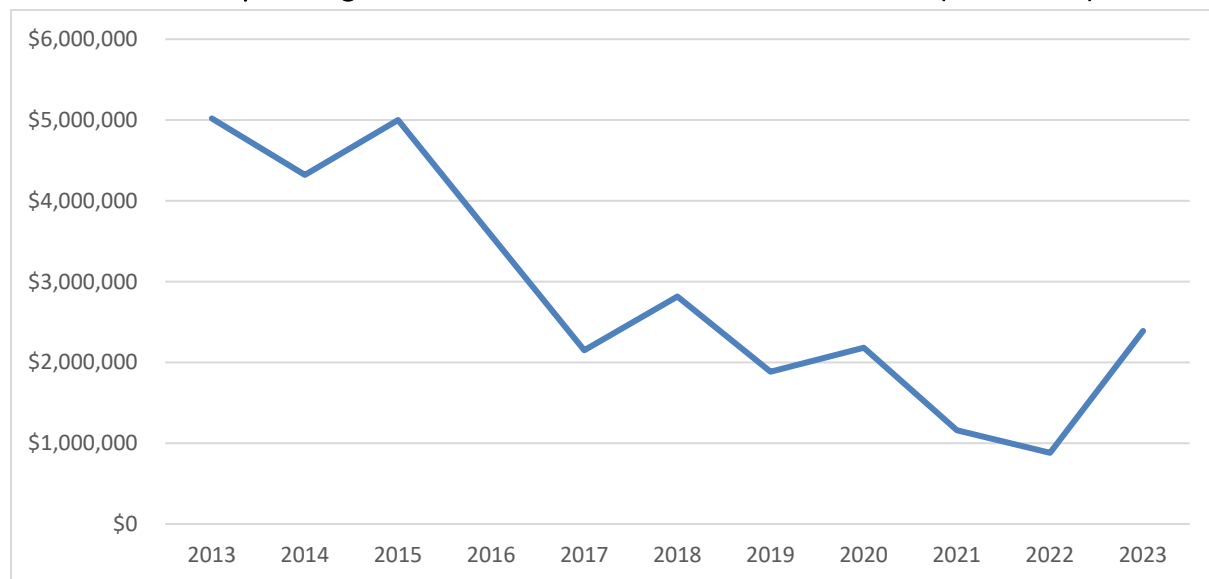
⁷⁹ Any funds expended to private, nonprofit land trust organizations must be matched dollar-for-dollar. KRS 146.560(2).

⁸⁰ Office of Kentucky Nature Preserves. Kentucky Heritage Land Conservation Fund. 2023 Annual Report.

Exhibit 1. Summary of the Kentucky Heritage Conservation Fund Efforts (1995-2023)			
Applicant	Number of Projects	Acres Conserved	Funding Amount
Kentucky Department of Fish and Wildlife Resources	8	40,701	\$7,915,256
Multiple Agency Partners	6	14,781	\$11,673,456
Office of Kentucky Nature Preserves	49	11,788	\$10,155,385
County Governments	35	7,333	\$13,693,295
Wild Rivers Program	17	6,430	\$8,389,490
Department of Parks	16	5,342	\$7,047,139
Division of Forestry	6	3,663	\$6,213,849
Colleges/Universities	8	2,079	\$4,952,277
Conservation Districts	8	1,484	\$4,624,700
Metro Governments	8	1,013	\$3,288,294
Non-profits	4	764	\$1,557,386
City Governments	10	543	\$1,709,119
Total	174	95,922	\$81,219,646
Note: Includes both acquisition and management costs. Source: Office of Kentucky Nature Preserves. Kentucky Heritage Land Conservation Fund. 2023 Annual Report.			

Revenue for the fund primarily comes from the sale of Kentucky nature license plates, unmined minerals tax on coal, and environmental fines. In general, revenues have been declining steadily over time, Exhibit 2. The Kentucky Environmental Education Council receives the first \$150,000 collected from environmental fines and the Office of Energy Policy receives the first \$400,000 of unmined minerals taxes. Due to totals falling below the \$550,000 threshold, KHLCF did not receive any funding from unmined mineral tax from fiscal years 2019 to 2023. The Kentucky General Assembly has also used appropriations to fund KHLCF. In 2024, Kentucky's General Assembly made a one-time additional \$2 million to KHLCF in HB 1.

Exhibit 2. Kentucky Heritage Conservation Fund Efforts Annual Revenue (2013-2023)



Source: Office of Kentucky Nature Preserves. Kentucky Heritage Land Conservation Fund. 2023 Annual Report.

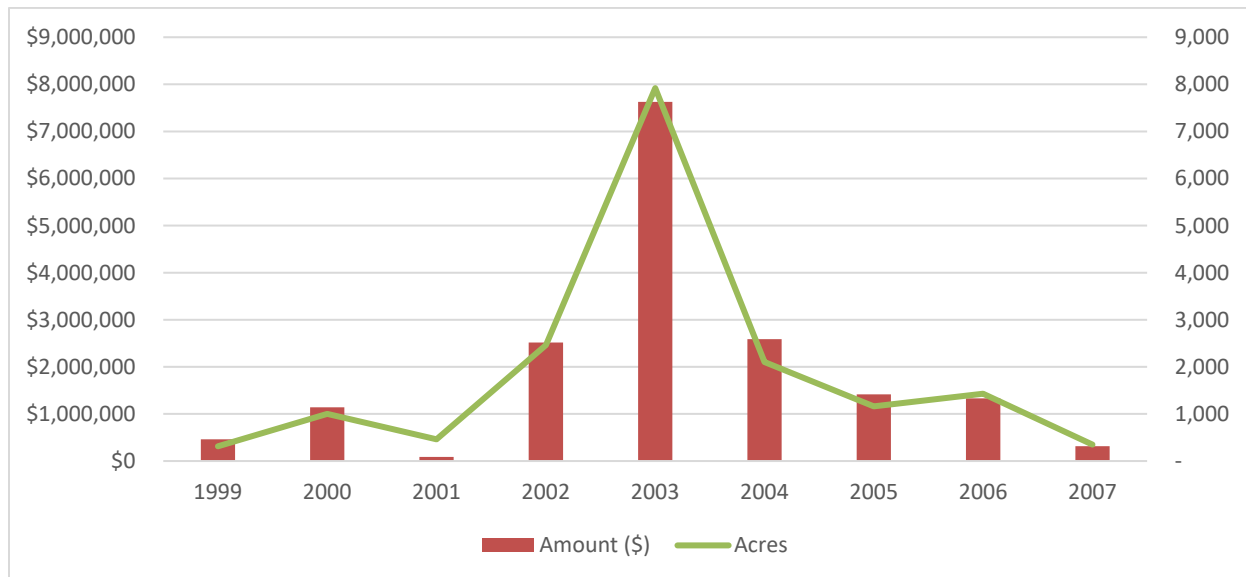
Purchase of Agricultural Conservation Easements (PACE)

The PACE program was created in 1994 to conserve Kentucky's world-renowned farmland through voluntary conservation easements.⁸¹ Initial funding was provided through a \$10 million state bond issuance paid for by tobacco settlement funds. Once bond funds were exhausted the program received a General Assembly appropriation of \$400,000 until 2008. Since then, the state has struggled to fund the program. PACE is currently only able to accept donated conservation easements severely affecting its ability to keep up with the rate of local farmland conversion.⁸² Overall the PACE program has conserved over 31,500 acres, of those 8,200 acres are donated easements, on 200 farms with 175 willing landowners. Exhibit 3, provides annual program activity in terms of funding amount and acres conserved for the years PACE was reliably funded (i.e., 1998 to 2007).

⁸¹ Kentucky Department of Agriculture. PACE. <https://www.kyagr.com/marketing/PACE.html>

⁸²⁸² Kentucky Department of Agriculture. PACE. <https://www.kyagr.com/marketing/PACE.html>

Exhibit 3. Purchase of Agricultural Conservation Easements Program Activity (1998-2007)



Source: The Trust for Public Land. Conservation Almanac. <https://conservationmanac.org/programs/kentucky/>

In the past PACE was successful in leveraging federal funding sources to purchase agricultural easements. A portion of the Commonwealth's investment in PACE (i.e., \$4.7 million in funding) leveraged \$14.3 million from the former Farm and Ranch Land Protection Program (FRPP) now known as the Agriculture Conservation Easement Program (ACEP) to conserve 15,689 acres, and \$3.4 million from the Army Compatible Use Buffer Program to conserve 1,568 acres.⁸³

⁸³ Kentucky Department of Agriculture. 2019. Purchase of Agricultural Conservation Easements Informational Sheet. [https://www.kyagr.com/marketing/documents/PACE Informational Sheet.pdf](https://www.kyagr.com/marketing/documents/PACE%20Informational%20Sheet.pdf)

Conservation Funding in Comparison States

Kentucky lags far behind its peers in providing public funding to conserve natural lands. Similar states have enacted various significant dedicated public funding mechanisms to support conservation including appropriations, Real Estate Transfer Taxes (RETT), bonds, tax credit programs, voluntary contribution programs, state sales taxes, dedicating outdoor sporting goods sales tax revenues, in-lieu-fees, proceeds from conservation license plates, allocating budget surpluses, revenues from the lease of tidelands and submerged lands, and interest earned from offshore natural gas royalties. Conservation funding mechanisms are broken down by state in Exhibit 4. Most states utilize more than one funding mechanism for land conservation. Appendix A provides details on the conservation funding programs summarized in this section.

Exhibit 4. Conservation Funding Types in Comparison States											
Significant Funding Mechanism	State										
	TN	OH	VA	MO	IN	NC	MS	AL	GA	AR	TX
Appropriations	●		●		●	●	●				●
Real Estate Transfer Taxes	●					●				●	
Bonds		●	●								
Tax Credits			●			●	●		●	●	
Voluntary Contributions			●		●						
Sales Tax			●	●					●	●	●
In-Lieu-Fee				●	●						
Conservation License Plates			●		●			●			
Budget Surplus											●
Land Leases							●				
Offshore Natural Gas Royalties								●			
Note: Sales Tax includes state sales taxes and sporting good sales taxes.											

All peer states have at least one conservation funding program, with most states having multiple conservation funding programs. Each state consistently provides conservation program funding of over \$10 million, Exhibit 5.

Exhibit 5. Conservation Funding Programs in Comparison States		
State	Number of Conservation Funding Programs	Approximate Annual Amount
Texas	3	\$251,000,000
Tennessee	5	\$81,200,000
North Carolina	4	\$67,500,000
Arkansas	5	\$47,000,000
Ohio	1	\$37,500,000
Mississippi	3	\$24,500,000
Missouri	3	\$24,000,000
Georgia	2	\$20,000,000
Alabama	1	\$15,000,000
Virginia	3	\$14,400,000
Indiana	2	\$11,500,000
Kentucky	1	\$2,390,000
Source: See Appendix A for full conservation funding program details. Note: Due to lack of available data approximate annual amounts do not include tax credit programs.		

How is State Funding Keeping up with Conservation Needs

Kentucky is falling behind peer states in rate of conservation. As shown in Exhibit 6, based on the Protected Areas Database of the United States, Kentucky is eighth in percent acres protected compared to peer states, just behind Missouri.⁸⁴ With a higher proportion of acres protected than Alabama, Texas, Ohio, and Indiana.

Exhibit 6. Total Protected Areas in Comparison States (Acres and Percent)		
State	Total Acres	Percent
Virginia	4,244,234	15.50%
North Carolina	4,050,381	11.80%
Arkansas	3,920,129	11.50%
Tennessee	2,400,790	8.90%
Mississippi	2,694,408	8.70%
Georgia	2,575,537	6.80%
Missouri	2,913,265	6.50%
Kentucky	1,616,810	6.30%
Alabama	1,414,233	4.20%
Texas	6,336,585	3.70%
Ohio	836,091	2.90%
Indiana	681,694	2.90%
Source: U.S. Geological Survey (USGS) 2024, Protected Areas Database of the United States (PAD-US) 4.0: U.S. Geological Survey data.		

While it is clear that Kentucky is lagging compared to peer states, the situation is compounded by the lack of adequate data to even properly assess the state's current land conservation needs. The last assessment was in 2008 from the Land Stewardship and Conservation Task Force (2006 House Concurrent Resolution 120).⁸⁵ At the time state agencies and programs who responded to the Task Force Survey identified 221,000 acres for future acquisition.

⁸⁴ U.S. Geological Survey (USGS) 2024, Protected Areas Database of the United States (PAD-US) 4.0: U.S. Geological Survey data.

⁸⁵ Legislative Research Commission. 2008. Report of the Land Stewardship and Conservation Task Force: 2006 House Concurrent Resolution 120. Research Memorandum No. 502. Revised March 22, 2012.

The current backlog of potential private (e.g., landowners wishing to conserve their property) and nonprofit conservation projects awaiting funding is also unknown.⁸⁶ Typically a reliable estimate of need can be formed based on the number of applications received versus those that are funded by land conversation programs. However, this is not possible in Kentucky due to the sporadic availability in funding. Especially with the PACE program only accepting donations currently. That is, eligible entities do not apply to programs that are unfunded and not accepting applications.

Kentucky sinks even further below comparison states when considering only those lands conserved by land trusts. As shown in Exhibit 7, based on data from the Land Trust Alliance Kentucky is ninth in percent of acres protected by land trusts compared to peer states just behind Texas. With only more acres protected by land trusts than Arkansas, Missouri, and Indiana. A common theme with the states with higher levels of acres protected by land trusts is those states also tend to have conservation tax credit programs and/or provide funding for conservation easement purchase programs for their land trusts, thus creating funding opportunities for local conservation priorities.

Exhibit 7. Acres Protected by Land Trusts		
State	Acres	Percentage of Total Land Area
Virginia	1,940,822	7.09%
North Carolina	1,523,393	4.44%
Tennessee	1,070,201	3.97%
Georgia	1,130,531	2.98%
Ohio	429,419	1.49%
Alabama	459,858	1.37%
Mississippi	375,577	1.21%
Texas	1,902,116	1.11%
Kentucky	249,537	0.97%
Arkansas	308,244	0.90%
Missouri	362,180	0.81%
Indiana	158,999	0.68%
Source: Land Trust Alliance. Gaining Ground. https://landtrustalliance.org/land-trusts/gaining-ground		

⁸⁶ Personal communication with Zeb Weese Zeb Weese, the former executive director of the Kentucky Office of Nature Preserves and a consultant for the Kentucky Lands Trusts Coalition.

Federal-State Partnerships for Funding Conservation

The federal government provides substantial funding for conservation programs across the country with most federal funds requiring matching or cost-share funds. With consistent dedicated funding for conservation Kentucky could further benefit from these partnerships and matching programs, by using state resources to meet federal matching requirements.

The following section summarizes a selection of key federal–state programs. To take full advantage of these federal conservation funds, some of which have historic levels of funding over the next few years, Kentucky will need to increase its commitment of state matching funds.

Agriculture Conservation Easement Program (ACEP)

ACEP helps protect, restore, and enhance wetlands or protect working farms and ranches through conservation easements.⁸⁷ The Inflation Reduction Act included \$1.4 billion in additional funding for ACEP over five years through fiscal year 2031. In fiscal year 2023, Kentucky did not receive any ACEP funds. ACEP has three components:

Agricultural Land Easements (ALE)

ALE helps protect croplands and grasslands on working farms and ranches by limiting non-agricultural uses of the land through conservation easements.⁸⁸ Eligible applicants include state and local governments, non-governmental organizations (e.g., land trusts), and Native nations that have farmland, rangeland or grassland protection programs and landowners. NRCS may contribute up to 50 percent of the fair market value of the agricultural land easement.

Wetlands Reserve Easements (WRE)

WRE protects, restores, and enhances wetlands which have been previously degraded due to agricultural uses.⁸⁹ Landowners can voluntarily participate in the program. NRCS contributes between 50 to 75 percent of the easement value for 30-year easements, or 100 percent of the purchase of a conservation easement.

⁸⁷ Natural Resources Conservation Service. Agricultural Conservation Easement Program. <https://www.nrcs.usda.gov/programs-initiatives/acep-agricultural-conservation-easement-program/kentucky/agricultural>

⁸⁸ Natural Resources Conservation Service. Agricultural Land Easements. <https://www.nrcs.usda.gov/programs-initiatives/ale-agricultural-land-easements>

⁸⁹ Natural Resources Conservation Service. Wetland Reserve Easements. <https://www.nrcs.usda.gov/programs-initiatives/wre-wetland-reserve-easements>

Wetland Reserve Enhancement Partnership (WREP)

WREP carries out high priority wetland protection, restoration, and enhancement and improves wildlife habitat.⁹⁰ State agencies, county and local governments, non-governmental organizations (e.g., land trusts), and American Indian tribes are eligible for the program. NRCS will contribute up to 90 percent of the total estimated costs for easement acquisition related costs and restoration implementation costs.

Regional Conservation Partnership Program (RCPP)

RCPP promotes coordination of NRCS conservation activities with partners that offer value-added contributions to expand the collective ability to address on-farm, watershed, and regional natural resource concerns.⁹¹ In fiscal year 2024, \$1.5 billion is available nationwide, with \$250,000 to \$10 million available per project. NRCS may contribute up to 50 percent of project costs. RCPP projects fall under two different categories:

RCPP Classic

RCPP Classic projects are implemented using NRCS contracts and easements with producers, landowners and communities, in collaboration with project partners (e.g., land trusts). In 2023, two Kentucky projects were awarded RCPP Classic funds.

⁹⁰ Natural Resources Conservation Service. Wetland Reserve Enhancement Partnership.
<https://www.nrcs.usda.gov/programs-initiatives/wrep-wetland-reserve-enhancement-partnership>

⁹¹ Natural Resources Conservation Service. Regional Conservation Partnership Program (RCPP).
<https://www.nrcs.usda.gov/programs-initiatives/rcpp-regional-conservation-partnership-program/kentucky/regional-conservation>

The Power of Partnership: A Regional Conservation Success Story

In early 2023, Bluegrass Land Conservancy lead efforts to submit two proposals to the Natural Resources Conservation Service Regional Conservation Partnership Program for land conservation projects in Central Kentucky. These projects would provide federal dollars to local landowners for voluntary conservation easements on their property, with the goal of conserving contiguous blocks of farmland and natural lands within the two project areas – along the Kentucky River Palisades and within the Greater Louisville Region. The final proposals included over 20 official partners including conservation organizations, state agencies, non-profits, universities, and private citizens.



Thanks to this power of partnership and the quality of farmland, natural lands, and waterways in the Bluegrass, both proposals were fully funded in what was the largest combined award in the country- \$45.7 million in federal funds. These funds will go directly to landowners and will be matched with an equivalent federal tax deduction, resulting in over \$90 million total economic impact to Kentucky.

With the landowner funding in place and a goal of conserving over 20,000 acres of farmland, wildlife corridors, waterways, and scenic open space through the projects, Bluegrass Land Conservancy approached the Kentucky General Assembly in the 2024 Budget Session for a one-time allocation to help fund the administration and outside expenses associated with rolling out the program. Thanks to the sponsorship of the Senate and House Agriculture Committees, the allocation was successfully secured in HB1. Ultimately this \$4 million investment will be met with \$15 million in private fundraising, creating a public-private partnership to ensure not only the \$90 million in economic impact and over \$100 million in conservation value, but also set up the opportunity to secure additional future funding through the RCPP program to expand project areas and impact.

RCPP Alternative Funding Arrangements (AFAs)

Through RCPP AFAs, NRCS provides funding to partners (e.g., land trusts) to support conservation activities with eligible producers and landowners on eligible land. RCPP AFA funding reimburses partners for conservation activities done for or on behalf of producers, landowners, or other entities.

Environmental Quality Incentives Program (EQIP)

EQIP helps farmers, ranchers, and forest landowners integrate conservation Best Management Practices (BMPs) into working lands.⁹² Up to \$140,000 is available per agricultural producer or forest landowner over four years. In fiscal year 2023, Kentucky landowners received \$3.5 million in EQIP funds.⁹³ NRCS may contribute up to 75 percent of BMP costs or 90 percent for socially disadvantaged, limited resource, beginning, and veteran farmer and ranchers.

Watershed and Flood Prevention Operations Program (WFPO)

The WFPO helps state and local governments protect and restore watersheds through flood prevention, watershed protection, recreation, habitat, agricultural water management, and water quality management projects.⁹⁴ The Bipartisan Infrastructure Law (BIL) provided \$500 million for the program. In 2022, funding was provided for a preliminary investigation feasibility report to determine if WFPO can be used to assist with flooding issues in the Fighting Creek – Cumberland River watershed near the KayJay community.⁹⁵ NRCS may contribute up to 50 percent of project costs.

Emergency Watershed Protection Program (EWP)

EWP offers technical and financial assistance to help local communities relieve imminent threats to life and property caused by floods, fires, windstorms, and other natural disasters that impair a

⁹² Natural Resources Conservation Service. Kentucky Environmental Quality Incentives Program. <https://www.nrcs.usda.gov/programs-initiatives/eqip-environmental-quality-incentives/kentucky/kentucky-environmental-quality>

⁹³ Natural Resources Conservation Service. RCA Data Viewer. https://publicdashboards.dl.usda.gov/t/FPAC_PUB/views/InflationReductionActDataVisualizationTool/IRAEndOfYearReport?%3Aembed=y&%3AisGuestRedirectFromVizportal=y

⁹⁴ Natural Resources Conservation Service. Watershed and Flood Prevention Operations (WFPO) Program. <https://www.nrcs.usda.gov/programs-initiatives/watershed-and-flood-prevention-operations-wfpo-program/kentucky/watershed-and-flood-prevention-operations-wfpo-program>

⁹⁵ Natural Resources Conservation Service. Infrastructure Investment and Jobs Act (IIJA): Watershed and Flood Prevention Operations (WFPO) Program Funding. Round 1: March 4, 2022.

watershed.⁹⁶ NRCS offers financial and technical assistance for various activities under the EWP Program, including purchase of floodplain easements. The 2023 Consolidated Appropriations Act provided \$925 million total for EWP emergency projects. Following the July 2022 flood, EWP provided \$21 million to Breathitt, Clay, Floyd, Knott, Letcher, Owsley, Perry, and Pike Counties, and the City of Whitesburg.⁹⁷ NRCS may contribute up to 75 percent of costs, or 90 percent for limited resource areas. In addition, \$70 million of BIL funds were dedicated for covering 100 percent of the cost floodplain buyouts in limited resource areas where structural projects to reduce threats from additional flooding are not cost effective and/or beneficial.

Land and Water Conservation Fund (LWCF)

LWCF protects and improves public outdoor parks and recreation areas, including those on federal, state, and local lands and waters. The National Park Service (NPS), Bureau of Land Management, U.S. Fish and Wildlife Service (USFWS), and U.S. Forest Service use LWCF funds to protect critical natural resource and outdoor recreation lands from development, to enhance public access for recreation, protect key wildlife habitat, and conserve land and water resources on federally designated and managed lands. At the federal level, the fund is managed by NPS.

There are five separate state grant programs that use LWCF funds, including the State and Local Assistance (Stateside) Program, Outdoor Recreation Legacy Partnership Program, Forest Legacy Program (FLP), Cooperative Endangered Species Conservation Fund (Section 6), American Battlefield Protection Program, and Highlands Conservation Act. The programs with a land conservation component utilized by Kentucky are discussed in detail below.

⁹⁶ Natural Resources Conservation Service. Emergency Watershed Protection. <https://www.nrcs.usda.gov/programs-initiatives/ewp-emergency-watershed-protection/kentucky/emergency-watershed-protection>

⁹⁷ Natural Resources Conservation Service. EWP Consolidated Appropriations Act (CAA) Funding 2023. [https://www.nrcs.usda.gov/programs-initiatives/ewp-emergency-watershed-protection/ewp-consolidated-appropriations-act-cao#:~:text=The%202023%20Consolidated%20Appropriations%20Act,Consolidated%20Appropriations%20Act%20\(CAA\).](https://www.nrcs.usda.gov/programs-initiatives/ewp-emergency-watershed-protection/ewp-consolidated-appropriations-act-cao#:~:text=The%202023%20Consolidated%20Appropriations%20Act,Consolidated%20Appropriations%20Act%20(CAA).)

Since 1967, a total of \$50.5 million, 40 percent, of LWCF funds have been used primarily for land acquisition in Kentucky (Exhibit 8).⁹⁸ The total LWCF funding utilized for land conservation is lower in Kentucky than all comparison states.

Exhibit 8. Land and Water Conservation Fund Land Acquisition Funding by State	
State	Funding
Texas	\$473,413,331
Georgia	\$304,245,562
Virginia	\$292,455,410
Ohio	\$251,762,936
Indiana	\$141,129,296
North Carolina	\$123,720,572
Arkansas	\$123,564,323
Tennessee	\$119,909,351
Mississippi	\$101,363,845
Alabama	\$84,942,438
Missouri	\$80,058,698
Kentucky	\$50,511,348
Note: LWCF acquisition funds include Cooperative Endangered Species Conservation Fund (Section 6), Forest Legacy Program, National Park Service, State and Local Assistance Program, and U.S. Fish and Wildlife Service. Source: Trust for Public Land. Land and Water Conservation Fund (LWCF) Past Projects Map. https://lwcf.tplgis.org/mappast/	

LWCF Stateside Program

The LWCF stateside program provides matching grants to state and local governments to protect important natural areas, acquire land for outdoor recreation, and to develop or renovate public outdoor recreation facilities such as campgrounds, picnic areas, sports fields, swimming facilities, boating facilities, fishing facilities, trails, natural areas and passive parks.⁹⁹ Funds are distributed to every state and territory using a population-based formula. In fiscal year 2023, \$4.2 million was allocated to Kentucky for these types of local projects.¹⁰⁰ Since 1967, approximately \$18.1

⁹⁸ Trust for Public Land. Land and Water Conservation Fund (LWCF) Past Projects Map.

<https://lwcf.tplgis.org/mappast/>

⁹⁹ Kentucky Department for Local Government. Land & Water Conservation Fund.

https://kydlgweb.ky.gov/FederalGrants/16_LWCF.cfm

¹⁰⁰ National Park Service. Department of Interior Announces Nearly \$300 million to Support and Expand Local Outdoor Recreation. July 21, 2023. <https://www.nps.gov/orgs/1207/lwcf-2023.htm>

million of stateside LWCF funding has gone specifically to land acquisition in Kentucky. At the state-level in Kentucky, LWCF is managed and coordinated by the Department for Local Government within the Office of the Governor. LWCF grants can provide up to 50 percent of total project costs.

Cooperative Endangered Species Conservation Fund (Section 6 of the Endangered Species Act)

The Cooperative Endangered Species Conservation Fund is managed by USFWS. The fund provides grants to states through Section 6 of the Endangered Species Act to states. Section 6 provides four types of grants:

Traditional Conservation Grants

Traditional Conservation Grants provide funds to implement conservation projects for listed, candidate, and at-risk species. In fiscal year 2024, \$13.9 million was available.¹⁰¹

Conservation Planning Assistance Grants

Conservation Planning Assistance Grants provide funds for habitat conservation plans, safe harbor agreements, and candidate conservation agreements. In fiscal year 2024, \$6.97 million was available.

Habitat Conservation Plan Land Acquisition Grants

Habitat Conservation Plan Land Acquisition Grants provide funding to acquire land associated with approved Habitat Conservation Plans. In fiscal year 2024, \$26.5 million was available.

Recovery Land Acquisition Grants

Recovery Land Acquisition Grants provide funds for the acquisition of habitat in support of recovery plans. In the fiscal year 2024, \$15 million was available.

¹⁰¹ U.S. Fish and Wildlife Service. Cooperative Endangered Species Conservation Fund Grants (Section 6 of the Endangered Species Act).

LWCF Section 6

Since 1967, approximately \$2.9 million of LWCF Section 6 funding has gone to land acquisition in Kentucky.¹⁰² Section 6 funding for a land acquisition project in Kentucky was last awarded in 2009. These grants can provide up to 75 percent of total project costs, or 90 percent when two or more states implement a joint project.

Forest Legacy Program (FLP)

The FLP is a voluntary landowner assistance program designed to encourage the protection of privately owned forest lands through conservation easements or land purchases.¹⁰³ FLP is administered by the USFS in cooperation with state partners. The Division of Forestry is the lead agency administering the program in Kentucky.¹⁰⁴ In fiscal year 2024, \$154 million is available nationwide, and states can submit up to five new projects for funding consideration, not to exceed a total of \$20 million. The FLP can provide up to 75 percent of program costs.

LWCF Forest Legacy Program

Since 1967, approximately \$13.2 million of FLP LWCF funding has gone to land acquisition in Kentucky.¹⁰⁵ FLP funding for a for a land acquisition project in Kentucky was last awarded in 2012.

Sport Fish Restoration Program

The Sport Fish Restoration Program (Dingell-Johnson) program provides funding to states for fish restoration and management projects, with a focus on supporting recreational fishing.¹⁰⁶ The USFWS manages the program and provides grants to the Kentucky Department of Fish and Wildlife.¹⁰⁷ Eligible projects include those that restore, conserve, enhance, or stock sport fish populations or that provide public access for recreational fishing. Since 1952, \$284 million in Sport Fish Restoration Funds have been provided to Kentucky. In 2024, \$382 million in Sport Fish

¹⁰² Trust for Public Land. Land and Water Conservation Fund (LWCF) Past Projects Map. <https://lwcf.tplgis.org/mappast/>

¹⁰³ U.S. Forest Service. Forest Legacy. <https://www.fs.usda.gov/managing-land/private-land/forest-legacy>

¹⁰⁴ Kentucky Energy and Environment Cabinet. Forest Legacy Program. <https://eec.ky.gov/Natural-Resources/Forestry/ky-state-forests/Pages/Forest-Legacy-Program.aspx#:~:text=The%20goals%20of%20Kentucky%20FLP,forests%20and%20other%20conservation%20opportunities.>

¹⁰⁵ Trust for Public Land. Land and Water Conservation Fund (LWCF) Past Projects Map. <https://lwcf.tplgis.org/mappast/>

¹⁰⁶ U.S. Fish and Wildlife Service. Sport Fish Restoration. <https://www.fws.gov/program/sport-fish-restoration>

¹⁰⁷ Kentucky Department of Fish and Wildlife Resources. About Us. <https://fw.ky.gov/More/Pages/About-Us.aspx>

Restoration Apportionments was available nationally, and \$5.4 million was awarded to Kentucky.¹⁰⁸ The Sport Fish Restoration Program can provide up to 75 percent of costs.



Photo credit: "Naturally Kentucky" by Thomas G. Barnes

¹⁰⁸ U.S. Fish and Wildlife Service. Sport Fish Restoration Apportionments.
<https://tracs.fws.gov/sportFishRestorationApportionments.html>

Cumberland Forest Wildlife Management Area



In Kentucky's 16-county elk restoration zone and highly utilized by elk, the Cumberland Forest Wildlife Management Area is a popular hunting destination for elk and other species including small game, turkey, and deer. It is also open to the public for recreation activities such as hiking, camping, wildlife watching.

The mostly forested 54,560-acre Cumberland Forest Wildlife Management Area across Bell, Knox, and Leslie Counties is permanently protected by a conservation easement held by the Kentucky Department of Fish and Wildlife Resources.

State funding for the conservation easement was leveraged over 3:1. The Kentucky General Assembly's investment of \$3.875 million was matched with more than \$12 million from the Wildlife Restoration Program, also known as the Wildlife Restoration Act (Pittman-Robertson), secured by the Kentucky Department of Fish and Wildlife Resources. The Rocky Mountain Elk Foundation secured a \$650,000 grant from the National Fish and Wildlife Foundation.

Partners included the Kentucky Department of Fish and Wildlife Resources, The Nature Conservancy, Rocky Mountain Elk Foundation, and the Kentucky General Assembly.

Wildlife Restoration

The Wildlife Restoration Program (Pittman-Robertson) provides funding to states for wildlife restoration projects, with a focus on supporting hunting and other wildlife-associated activities.¹⁰⁹ The types of projects eligible for funding include restoration, conservation, and management of wildlife for public benefit and providing public access for hunting or other wildlife-oriented recreation. The USFWS manages the program and provides grants to the Kentucky Department of Fish and Wildlife. In Fiscal year 2024, \$990 million was available nationally, and \$18.7 million was provided to Kentucky.¹¹⁰ The Wildlife Restoration Program can provide up to 75 percent of costs.

State Wildlife Grants

The State Wildlife Grants program provides grants to state wildlife agencies to address wildlife conservation needs.¹¹¹ Focusing especially on wildlife species of greatest conservation need identified in State Wildlife Action Plans. The USFWS manages the program and provides grants to the Kentucky Department of Fish and Wildlife.¹¹² In fiscal year 2024, \$59 million was available nationally, and \$0.8 million was provided to Kentucky.¹¹³ In addition, \$7.4 million was available in the competitive grant program portion.¹¹⁴ No competitive projects in Kentucky were selected for funding. The Wildlife Restoration Program can provide up to 75 percent of the costs.

North American Wetlands Conservation Act (NAWCA)

NAWCA's U.S. Standard Grants Program supports public-private partnerships carrying out projects that involve long-term protection, restoration, and/or enhancement of wetlands and associated uplands habitats for the benefit of all wetlands-associated migratory birds.¹¹⁵ This competitive grant program is administered by USFWS. For-profit organizations, local

¹⁰⁹ U.S. Fish and Wildlife Service. Wildlife Restoration. <https://www.fws.gov/program/wildlife-restoration>

¹¹⁰ U.S. Fish and Wildlife Service. Final Apportionment of Pittman-Robertson Wildlife Restoration Funds for Fiscal Year 2024. <https://www.fws.gov/media/fy-24-wr-final-apportionment-table>

¹¹¹ U.S. Fish and Wildlife Service. State Wildlife Grants. <https://www.fws.gov/library/collections/state-wildlife-grants-swg>

¹¹² Kentucky Department of Fish and Wildlife Resources. State Wildlife Grant Program. <https://fw.ky.gov/Fish/Pages/State-Wildlife-Grant-Program.aspx>

¹¹³ U.S. Fish and Wildlife Service. Final Apportionment of State Wildlife Grants for Fiscal Year 2024. <https://www.fws.gov/sites/default/files/documents/2024-04/fy-24-swg-apportionment-table.pdf>

¹¹⁴ U.S. Fish and Wildlife Service. FY 2024 Competitive State Wildlife Grant Program: Recommended Projects. <https://www.fws.gov/sites/default/files/documents/2024-07/fy2024-c-swg-recommended-projects-table.pdf>

¹¹⁵ U.S. Fish and Wildlife Service. North American Wetlands Conservation Act (NAWCA) Grants: US Standard Program. <https://www.fws.gov/service/north-american-wetlands-conservation-act-nawca-grants-us-standard-program>

governments, nonprofit organizations (e.g., land trusts), public/private institutions of higher education, states, territories, and tribes are eligible for funding. Since 1993, \$5.3 million in NAWCA grants have been awarded in Kentucky.¹¹⁶ In 2024, \$84.3 million in NAWCA grants were awarded, none of which were in Kentucky.¹¹⁷ NAWCA can provide up to 50 percent of costs.

Readiness and Environmental Protection Integration Program (REPI)

REPI facilitates cost-sharing agreements between the military, other federal agencies, state and local governments, and private conservation organizations (e.g., land trusts) for land conservation efforts near military ranges and installations to address challenges caused by population growth and development near military lands.¹¹⁸ Through REPI the Department of Defense has partnered with the Compatible Lands Foundation, Kentucky Department of Agriculture, Kentucky Department of Fish and Wildlife Resources, Kentucky Division of Conservation, Kentucky Forest Service, Kentucky Land Trust, Kentucky Nature Preserves, Land Trust for Tennessee, Lincoln Trail Area Development District, The Nature Conservancy, and NRCS to support Fort Knox. From fiscal years 2008 through 2023, the Department of Defense contributed over \$1.0 million to REPI projects supporting the Fort Knox Installation.

¹¹⁶ U.S. Fish and Wildlife Service. Welcome to DBHC Grant Summary Query Application. <https://www.fws.gov/grantsum/gsQuery>

¹¹⁷ U.S. Department of the Interior. Interior Department Announces More Than \$87 Million for Wetland Conservation Projects and National Wildlife Refuges. <https://www.doi.gov/pressreleases/interior-department-announces-more-87-million-wetland-conservation-projects-and>

¹¹⁸ U.S. Department of Defense, Readiness and Environmental Protection Integration Program. State Fact Sheets: Kentucky. https://www.repi.mil/Portals/44/Documents/State_Fact_Sheets/Kentucky_StateFacts.pdf

Western Knobs

The Bernheim-Fort Knox Wildlands Corridor has brought diverse partners together to protect this important area. The U.S. Army Installation Fort Knox and the Bernheim Arboretum and Research Forest anchor the corridor. Growth and urban sprawl around Fort Knox and Louisville threaten to restrict training, create safety concerns, and increase the loss of habitat for the endangered gray and Indiana bats. With partners the Department of Defense has leveraged \$1 million in REPI funds to protect 462 acres. The Bernheim Arboretum and Research Forest is the largest private forest in the state with 16,137 acres. Almost 600 of those acres containing large sections of mature forests with some of the best remaining examples of oak-hickory and upland oak-pine forests in the region were added with funding from KHLCF.

Matching KHLCF funds were used by Kentucky Department of Fish and Wildlife Resources and Division of Forestry for the nearby 2,035 acres Knobs State Forest and Wildlife Management Area. It is the first Forest Legacy project in Kentucky. The forest is managed for sustainable timber production while ensuring the protection of water quality and the protection and enhancement of biological diversity. Hiking, wildlife viewing, and hunting are permitted.

Kentucky Natural Lands Trust has also added 155 acres as Crooked Creek Preserve and 308 acres of conservation easements.

Conservation Funding Opportunities

There are options for expanding the funding mechanisms used to support land, water, and wildlife conservation in Kentucky including providing income tax credits to voluntary land conservation donations, implementing an additional document recording fee dedicated to conservation, dedicating a portion of the existing general sales tax for conservation, allocating the share of the existing sales tax that comes from the purchase of outdoor sporting goods or similar type of purchase, and issuing bonds to fund land conservation.

Tax Credits

Providing state income tax credits to those who voluntarily donate land for conservation purposes could support conservation in Kentucky. Tax credit programs require that there are nonprofit organizations, including land trusts, and state agencies who are willing to hold the easements in perpetuity.

Kentucky has a tax credit program for historic property rehabilitation.¹¹⁹ Through the Historic Rehabilitation Tax Credit Program taxpayers are eligible for income tax credits of 30 percent of the qualified rehabilitation expenses for owner occupied residential property and 20 percent for all other property.¹²⁰ The taxpayer can use the tax credit themselves or transfer/sell the credit they receive. In 2024, \$4.35 million in residential rehabilitation tax credits were awarded to 77 applicants, and \$94.3 million in commercial and other (e.g., non-profit organizations, museums, and historical sites) rehabilitation tax credits were awarded to 117 applicants.¹²¹

The Kentucky General Assembly could consider creating a land conservation tax credit program similar to the existing tax credit program for historic property rehabilitation. Because a conservation tax credit program would be voluntary it is not possible to estimate the demand. As summarized in the Conservation Funding in Comparison States section, Virginia, North Carolina, Mississippi, Georgia, and Arkansas have land conservation tax credit programs. Program details can be found in Appendix A.

¹¹⁹ Kentucky Heritage Council, State Historic Preservation Office. Rehabilitation Tax Credits. <https://heritage.ky.gov/historic-buildings/rehab-tax-credits/Pages/overview.aspx#:~:text=A%20Historic%20Rehabilitation%20Tax%20Credit,Register%20of%20Historic%20Places%E2%80%8B>.

¹²⁰ KRS 171.397

¹²¹ Kentucky Heritage Council, State Historic Preservation Office. Rehabilitation Tax Credits 2024 By The Numbers.

Document Recording Fee

Deeds and mortgage, and other documents, recording fees in Kentucky cost \$12, with the first \$6 going to the Affordable Housing Trust Fund (AHTF).¹²² In 2023, about 921,000 documents were charged a recording fee in Kentucky.¹²³ For each, the county clerk sent \$6 of that fee to the AHTF, which received \$5.5 million from this funding stream.¹²⁴

The Kentucky General Assembly could consider establishing an additional document recording fee dedicated to land conservation programs in Kentucky. Based on a five-year average of 895,000 documents, if an additional \$3 recording fee for conservation was instituted the state may potentially receive around \$2.7 million annually.¹²⁵ A document recording fee is similar to the RETT programs for land conservation in Tennessee, Arkansas, and North Carolina, summarized in the Conservation Funding in Comparison States section and detailed in Appendix A.

Sales Tax

The general state sales tax could generate substantial funds for land conservation programs in Kentucky. Kentucky has a statewide sales tax rate of 6 percent with no local sales and use tax. The sales tax is committed to the state General Fund. It is estimated to generate \$5.83 billion in fiscal year 2024.¹²⁶

The Kentucky General Assembly could consider asking voters to approve a constitutional amendment to the sales tax for conservation. A dedication of 0.125 percent of Kentucky's current 6 percent state sales tax would raise about \$121 million annually (based on fiscal year 2024 projections). While dedicating a portion of the existing sales tax for conservation in Kentucky could be challenging, as shown in the Conservation Funding in Comparison States section and detailed in Appendix A, Missouri and Arkansas have both established 1/8-cent state sales taxes (0.125 percent) and are widely acclaimed for these efforts to support funding for wildlife conservation.

Alternatively, the Kentucky General Assembly could earmark the share of sales tax revenues that are estimated to come from the purchase of equipment associated with sporting goods or

¹²² KRS 64.012

¹²³ Kentucky Housing Corporation. Financial Statements. 2023.

¹²⁴ In the last five years the AHTF has received between \$4.9 million and \$6.1 million in recording fees.

¹²⁵ Kentucky Housing Corporation. Financial Statements. 2019, 2020, 2021, 2022, and 2023.

¹²⁶ Commonwealth of Kentucky 2024-2026 Budget of the Commonwealth: Budget in Brief.

similar type of purchase. Based on the figures obtained from the U.S. Fish and Wildlife Service National Survey of Fishing, Hunting, and Wildlife Associated Recreation, the sales of equipment associated with sporting goods in Kentucky total approximately \$660 million per year.¹²⁷ Applying the 6 percent state sales tax rate would yield \$39.6 million in state taxes. As summarized in the Conservation Funding in Comparison States section and detailed in Appendix A, Georgia, Texas, and Virginia have land conservation programs funded by outdoor sporting goods sales taxes.

Bonds

Kentucky has not issued General Obligation bonds since the early-1960s and currently has no outstanding General Obligation bond debt.¹²⁸ Rather, the State Property and Buildings Commission (SPBC) issues revenue bonds to finance the acquisition of real estate, the construction and equipping of building projects, and other public projects for agencies of the Commonwealth.¹²⁹ Debt service on the revenue bonds is subject to appropriations for lease payments by the General Assembly.¹³⁰ Bonds have been authorized and issued from time to time on behalf of various state agencies or universities supported by a dedicated pledge of agency revenues. Prior approval of projects and appropriations of debt service by the General Assembly are required for SPBC to issue debt. As summarized previously in the Conservation Funding in Comparison States section, Ohio and Virginia have utilized bonding to fund land conservation, details can be found in Appendix A.

¹²⁷ The Rockville Institute for State Fish and Wildlife Agencies. Kentucky: Bridging the 50-State Survey of Fishing, Hunting, and Wildlife Associated Recreation with Previous National Survey of Fishing, Hunting, and Wildlife Associated Recreation Trends. March 2020.

¹²⁸ Office of Financial Management. Active Debt Issuing Entities. <https://bonds.ky.gov/commonwealth-of-kentucky-investor-relations-ky/additional-info/i2091?i=1>

¹²⁹ KRS 56.450 and KRS 58

¹³⁰ Finance and Administration Cabinet. State Property and Buildings Commission. <https://finance.ky.gov/office-of-the-controller/office-of-financial-management/Pages/state-property-and-buildings-commission.aspx>

Conclusion

Kentucky has incredible natural resources in its farmland, forests, and waterways, but we are losing these natural and working lands at an alarming rate. Without significant state investment in conservation this trend will continue, compromising the strength of our economy, Kentucky traditions like hunting and fishing, the quality of life and health of our citizens, and our irreplaceable natural and cultural heritage.

Strongly and consistently investing in conservation would deliver a host of benefits, from creating jobs and supporting local outdoor recreation, to strengthening our tourism, agriculture, forestry, and bourbon industries, to preserving hunting and fishing traditions.

If Kentucky continues to lag behind its peers in providing essential investments in its farmlands and natural lands it risks losing outdoor recreationists and tourists, and their accompanying dollars, to nearby states like Tennessee, Virginia, and the Carolinas.

Recent strategic investments made by the Kentucky General Assembly show a growing recognition that conserving Kentucky's lands and waters is not just a "nice to have" — but an essential investment in the state's long-term prosperity.

Robust state conservation funding would enable Kentucky to access federal programs with historic levels of federal funds but that require state matching dollars. By securing additional state funding or reallocating existing resources, Kentucky could potentially access these federal funds and increase the scale and impact of conservation even further.

The need to invest in and steward natural areas and farmlands has never been greater. Kentucky's lands and waters are not just a connection to our past — they are essential parts of a vibrant and prosperous future. Simply put, land conservation matters to all Kentuckians. We all need clean air and water, healthy and abundant supplies of food and fiber, and places for recreation. Land conservation supports all these related resources by protecting the natural, cultural, historic, and working landscapes that define our commonwealth, support our economy, and underpin our quality of life.

Successful land conservation requires the protection of a diversity of lands. Working farms and forests, scenic landscapes, natural areas, wildlife habitat and game lands, historic resources, and parks and recreational areas are all important to conserve for present and future generations of Kentuckians.

Successful land conservation requires action and initiative at all levels. An individual landowner who wants to protect his or her property should have the incentives to do so. A local community that wants to come together to conserve the lands that matter most to its citizens should have the resources to launch such an effort. Lastly, agencies and organizations seeking to protect lands of statewide importance should have the tools to preserve those lands for all Kentuckians to enjoy.

We urge Kentucky's leaders and decisionmakers to make a strong and ongoing investment in state funding for conservation. Generations of Kentuckians will thank you for securing the healthy, vibrant, and prosperous future they deserve.

Appendix A - State Conservation Funding Comparison Details

Tennessee

Tennessee has used a Real Estate Transfer Tax (RETT) of \$0.37 per \$100 of the value of property conveyed for general fund and conservation purposes.¹³¹ Of these funds, \$0.29 goes to the state's general fund, the remaining \$0.08 is dedicated to four state conservation funds.

- **Agricultural Resources Conservation Fund** receives \$0.015 per \$100. It funds solutions to nonpoint water pollution from agriculture and projects associated with livestock production that may cause pollution, and educates landowners, producers, and managers about activities to eliminate nonpoint source pollution.¹³² Assistance is facilitated primarily through Soil and Water Conservation Districts although Resource Conservation and Development Councils, universities, and other agricultural associations may participate, and landowners are eligible to receive incentive payments. In fiscal year 2022, revenues were \$14,945,707.¹³³
- **Wetlands Acquisition Fund** receives \$0.0325 per \$100. It funds the state acquisition and maintenance of wetlands and bottomland hardwood forests for preservation purposes.¹³⁴ In fiscal year 2022, revenues were \$32,382,366.¹³⁵
- **Local Parks and Recreation Fund** receives \$0.0175 per \$100. It provides grants to local government entities for the purchase of lands for parks, natural areas, greenways, and recreation facilities. The funds may also be used for trail development and capital projects in parks, natural areas, and greenways.¹³⁶ In fiscal year 2022, revenues were \$17,436,659.¹³⁷
- **State Lands Acquisition Fund** receives \$0.015. Funds are provided for the acquisition of land or easements for state parks, state forests, state natural areas, boundary areas

¹³¹ T.C.A. § 67-4-409. Tennessee Department of Revenue. Recordation Tax Manual. March 2022.

¹³² Tennessee Department of Agriculture. Agricultural Resources Conservation Fund.
https://www.tn.gov/agriculture/farms/conservation/agricultural-resources-conservation-fund_rd.html

¹³³ Tennessee Department of Revenue. 2021-2022 Annual Report.

¹³⁴ T.C.A. § 11-14-401 through 11-14-407.

¹³⁵ Tennessee Department of Revenue. 2021-2022 Annual Report.

¹³⁶ Tennessee Department of Environment and Conservation. Local Parks and Recreation Fund Grants.
<https://www.tn.gov/environment/about-tdec/grants/recreation/lprf.html>

¹³⁷ Tennessee Department of Revenue. 2021-2022 Annual Report.

along state scenic rivers, state trail systems, trail development, and historic sites.¹³⁸ In fiscal year 2022, revenues were \$14,945,707.¹³⁹

The **Tennessee Heritage Conservation Trust Fund** seeks to protect significant natural areas by strategically partnering with landowners, government agencies, non-profit organizations including land trusts, for-profit companies, and others. It is funded through budget appropriations, and \$1.5 million was appropriated in fiscal year 2023.¹⁴⁰

Ohio

The **Clean Ohio Green Space Conservation Program** provides \$37.5 million in grants annually and is dedicated to environmental conservation including acquisition of green space and the protection and enhancement of river and stream corridors.¹⁴¹ Funds are supplied through revolving bond debt.¹⁴² Eligible applicants include local governments, parks districts, conservation districts, and environmental and conservation organizations (including land trusts).

Virginia

Most financial support for land conservation in Virginia has come from the **Virginia Land Preservation Tax Credit (LPTC)**.¹⁴³ The LPTC allows an income tax credit for 40 percent of the value of donated land or conservation easements and unused credits can be sold.¹⁴⁴

The **Virginia Land Conservation Foundation** funds the protection of farmlands and forests, lands of historic or cultural significance, natural areas, and open spaces, and parklands.¹⁴⁵ Eligible applicants include state agencies, localities, public bodies, state-recognized and federally recognized Tribes, and nonprofit organizations including land trusts. Funds are provided by annual budget appropriations. The fiscal year 2025 grant round has \$13.5 million in available funding.

¹³⁸ T.C.A. § 67-4-409.

¹³⁹ Tennessee Department of Revenue. 2021-2022 Annual Report.

¹⁴⁰ Tennessee Heritage Conservation Trust Fund, Board of Trustees 2023 Report.

¹⁴¹ Ohio Public Works Commission Clean Ohio Application. <https://publicworks.ohio.gov/programs/clean-ohio/co-application>

¹⁴² Ohio Public Works Commission's Funding Sources and Budget Bills. <https://publicworks.ohio.gov/home/news-and-events/all-news/OPWC-Funding-Sources>

¹⁴³ Joint Legislative Audit and Review Commission. 2012. Dedicated Revenue Sources for Land Conservation in Virginia. Report to the Governor and the General Assembly of Virginia.

¹⁴⁴ Virginia Department of Conservation and Recreation. Land Preservation Tax Credit. <https://www.dcr.virginia.gov/land-conservation/lp-taxcredit>

¹⁴⁵ Virginia Department of Conservation and Recreation. Virginia Land Conservation Foundation. <https://www.dcr.virginia.gov/land-conservation/vlcf>

The Virginia Department of Agriculture and Consumer Services supports farmland preservation by assisting local governments with the creation of purchase of development rights (PDR) programs. In 2024, the Virginia Department of Agriculture and Consumer Services will award \$875,000 from the **Virginia Farmland Preservation Fund** to support local PDR programs.¹⁴⁶

In addition to these, Virginia has occasionally used other revenue sources to support land conservation efforts, including the sale of wildlife conservation license plates, the sale of hunting and fishing licenses, a 2 percent sales tax on certain outdoor-related goods, the sale of a conservation stamp required when purchasing a license to hunt migratory waterfowl, and voluntary contributions from income tax refunds.¹⁴⁷

Missouri

Missouri has a 4.225 percent state sales tax that is distributed into four funds, two of which provide funding for conservation and parks.¹⁴⁸ In 1976, Missouri voters approved a constitutional amendment permanently establishing the **Conservation Sales Tax** of 0.125 percent. It generates over \$100 million each year and accounts for more than half of the state Department of Conservation budget.¹⁴⁹ The Department of Conservation uses a portion of the funding for land conservation and partnerships with landowners, \$11.8 million in fiscal year 2023.

In 1984, voters approved a separate **Parks, Soils and Water Sales Tax** of 0.10 percent. The Parks, Soils and Water Tax is placed on the ballot every 10 years, most recently in 2016.¹⁵⁰ It generates a slightly lower amount than the Conservation Sales Tax. Half of the revenue is managed by the Department of Natural Resources and used for saving soil and protecting the water resources

¹⁴⁶ Virginia Department of Agriculture and Consumer Services. Press Release: VDACS Awards a Total of \$875,000 in Farmland Preservation Grants to Six Virginia Localities. January 26, 2024. <https://www.vdacs.virginia.gov/press-releases-240126-farmland-preservation-grants.shtml>

¹⁴⁷ Joint Legislative Audit and Review Commission. 2012. Dedicated Revenue Sources for Land Conservation in Virginia. Report to the Governor and the General Assembly of Virginia.

¹⁴⁸ Missouri Department of Revenue. Sales/Use Tax. <https://dor.mo.gov/taxation/business/tax-types/sales-use/#:~:text=The%204.225%20percent%20state%20sales,local%20sales%20and%20use%20tax.>

¹⁴⁹ Missouri Department of Conservation. Annual Review: Fiscal Year 2023. <https://mdc.mo.gov/magazines/missouri-conservationist/2024-01/annual-review-fiscal-year-2023>

¹⁵⁰ Missouri State Parks. 2015. State Park Benefits: The Parks, Soils and Water Sales Tax. https://mostateparks.com/sites/mostateparks/files/Parks%20Brochure_4.pdf

through voluntary farming practices.¹⁵¹ The other half is managed by the State Parks Division and used to operate and improve the parks and historic sites.¹⁵²

The **Stream Stewardship Trust Fund** is a voluntary in-lieu-fee mitigation program.¹⁵³ Funds are used for land acquisition and stream improvement projects. The Trust Fund provides funding for project sites that are protected by a 30-year conservation agreement, or 30-year or permanent easements donated to or purchased by a conservation owner (e.g., land trust). From 2013 through 2022, \$3.7 million has been collected for the Stream Stewardship Trust Fund and used for 18 mitigation projects including two acquisition projects by local governments.¹⁵⁴

Indiana

The **President Benjamin Harrison Conservation Trust Fund** acquires and protects land that represents outstanding natural resources and habitats, or have recreational, historical or archaeological significance by partnering with state and local parks departments and private entities including land trusts.¹⁵⁵ Funding comes from revenue from Environmental License Plate sales, appropriations, and donations. Environmental License Plate sales generate around \$1 million annually.¹⁵⁶

The **Indiana Stream and Wetland Mitigation Program (IN SWMP)**, is a voluntary in-lieu fee mitigation program. Funds are used for restoration, creation, enhancement, or preservation of aquatic resources in partnership with federal, state, and local governments, and land trusts. In 2023, \$10.5 million in credit revenue was generated.¹⁵⁷

¹⁵¹ Missouri Department of Natural Resources. History of the Parks, Soils and Water Sales Tax.

<https://dnr.mo.gov/land-geology/soil-water-conservation/parks-soils-water-sales-tax>

¹⁵² Missouri State Parks. 2015. State Park Benefits: The Parks, Soils and Water Sales Tax.

https://mostateparks.com/sites/mostateparks/files/Parks%20Brochure_4.pdf

¹⁵³ Missouri Conservation Heritage Foundation. Stream Stewardship Trust Fund. <https://mochf.org/stream-stewardship-trust-fund/>

¹⁵⁴ Missouri Conservation Heritage Foundation. Stream Stewardship Trust Fund Annual Report January 1 through December 31, 2022.

¹⁵⁵ Indiana Department of Natural Resources. About the President Benjamin Harrison Conservation Trust Fund.

<https://www.in.gov/dnr/land-acquisition/about-the-trust/>

¹⁵⁶ Indiana Department of Natural Resources. Funding. <https://www.in.gov/dnr/land-acquisition/funding/>

¹⁵⁷ Division of Land Acquisition, Indiana Department of Natural Resources. 2024. Indiana Department of Natural Resources Indiana Stream and Wetland Mitigation Program Calendar Year 2023 Annual Report.

<https://www.in.gov/dnr/land-acquisition/files/la-2023-INSWMP-annual-report.pdf>

North Carolina

The **Land and Water Fund** protects and preserves land and water resources by funding land acquisition, stream restoration, and innovative stormwater treatments that protect water quality.¹⁵⁸ Eligible applicants include state agencies, local governments, and nonprofits whose primary purpose is the conservation, preservation, and/or restoration of cultural, environmental, and natural resources (e.g., land trusts). The 2024 and 2025 budgets appropriate \$30 million each year.

The **Parks and Recreation Trust Fund** funds local and state park protection, greenways, trails, and public beaches.¹⁵⁹ The 2024 and 2025 budgets appropriate \$30 million each year.

The **Agricultural Development and Farmland Preservation Trust Fund** protects working family farms through conservation easements and other programs.¹⁶⁰ Eligible applicants include non-profit conservation organizations (e.g., land trusts) or county agencies. Farmers, landowners, and others interested in applying must partner with these entities to participate in the program. The 2024 and 2025 budgets appropriate \$7.5 million, and \$12.5 million respectively.

The **Conservation Tax Credit** allows for a state tax credit on the value of real estate donated to a nonprofit (e.g., land trust) or government entity for farmland preservation, public trails, fish and wildlife, and other conservation-related purposes between January 1, 2025, and December 31, 2026.¹⁶¹

Mississippi

The **Mississippi Outdoor Stewardship Trust Fund (MOSTF)** funds the acquisition and improvement of local and state parks and trails, access to public waters and lands for outdoor recreation, restoration or enhancement on privately owned working agricultural lands and forests, wetlands, native forests, native grasslands and other unique habitats, and acquisition of critical areas for the provision or protection of clean water, wildlife, hunting, fishing, military

¹⁵⁸ North Carolina Department of Natural and Cultural Resources. North Carolina Land and Water Fund. <https://nclwf.nc.gov/>

¹⁵⁹ North Carolina Department of Parks & Recreation. Parks and Recreation Trust Fund. <https://www.ncparks.gov/about-us/grants/parks-and-recreation-trust-fund#WheredoPARTFfundscomefrom-4021>

¹⁶⁰ North Carolina Department of Agriculture & Consumer Services. Farmland Preservation. <https://www.ncagr.gov/adfp>

¹⁶¹ NC Farm Act SB 355

installation buffering or natural resource-based outdoor recreation.¹⁶² Grants are provided to counties, municipalities, state agencies, and nongovernmental entities (e.g., land trusts). During the 2024 Legislative Session \$12 million in funding was appropriated.¹⁶³

The **Tidelands Trust Fund** is administered by the Department of Marine Resources, to cover administrative cost, lost property taxes, and includes the acquisition or enhancement of public access areas to the public trust tidelands or public improvement projects.¹⁶⁴ Funds are derived from the lease of tidelands and submerged lands. State agencies, cities, counties, and other groups including land trusts are eligible for funding. In 2023, \$12.5 million in funding was awarded.

An **Income Tax Credit** is available for donations of land or interests in land considered priority site for conservation under the Mississippi Natural Heritage Program or adjacent to and along a stream fully nominated to Mississippi Scenic Streams Stewardship Program.¹⁶⁵ The landowner will receive 50 percent of transactions costs and deduct up to the full value of the conservation easement from their state income taxes.

Alabama

In 1992, voters approved a constitutional amendment establishing the **Forever Wild Land Trust** to acquire land for public use, and create trails, recreation areas, and nature preserves. In 2012, voters opted to extend the constitutional amendment to fund Forever Wild for another 20 years, through 2032. Individuals can nominate particular tracts of land for purchase, then the Forever Wild Land Trust Board of Trustees engages in a review process, based on the outcome of the review the board may then make an offer to buy that tract at the appraised fair market value. Funding is generated by the interest earned from offshore natural gas royalties capped at \$15 million a year.¹⁶⁶ Another source of funding is the Forever Wild Land Trust state license plate.

¹⁶² Mississippi Department of Finance and Administration. Mississippi Outdoor Stewardship Trust Fund. <https://www.dfa.ms.gov/most>

¹⁶³ Governor Tate Reeves Press Release: Mississippi Outdoor Stewardship Trust Fund Opens Third Round of Application Acceptance. July 15, 2024. <https://governorreeves.ms.gov/mississippi-outdoor-stewardship-trust-fund-opens-third-round-of-application-acceptance/>

¹⁶⁴ Mississippi Department of Marine Resources. Tidelands Trust Fund Program. <https://dmr.ms.gov/tidelands/>

¹⁶⁵ MS Code § 27-7-22.21.

¹⁶⁶ Forever Wild Land Trust. Forever Wild. <https://www.alabamaforeverwild.com/>

Georgia

In 2018, Georgia voters approved a constitutional amendment establishing the **Georgia Outdoor Stewardship Trust Fund** to support parks and trails and protects and acquire lands critical to wildlife, clean water, and outdoor recreation.¹⁶⁷ Eligible applicants include local governments, constituted recreation authorities, state agencies, and nongovernmental entities with a core mission of conservation (e.g., land trusts). Funding is generated by a dedicated portion of the existing sales and use tax on outdoor sporting goods of approximately \$20 million per year, through 2028.

The **Georgia Conservation Tax Credit Program** provides a financial incentive for landowners who donate fee-title lands or permanent conservation easements.¹⁶⁸ The landowner will receive state income tax credits up to 25 percent of the fair market value of their donations.

Arkansas

The Arkansas RETT of \$2.20 per \$1,000 is dedicated to natural and cultural heritage programs.¹⁶⁹ The **Natural and Cultural Resources Grant and Trust Fund** receives 80 percent of the funding, which is managed for the acquisition, management and stewardship of State-owned lands, or the preservation of State-owned historic sites, buildings, structures or objects of value for recreation or conservation purposes. The **Parks and Tourism Fund Account** receives 10 percent for making Outdoor Recreation Grants to cities and counties. The **Natural and Cultural Resources Historic Preservation Trust Fund** receives the final 10 percent for the operation of the state historic preservation program.

The **Conservation Sales Tax** raised the general sales tax by 1/8th of one cent, with revenue dedicated to conservation and parks, allocations include for the Arkansas Game and Fish Commission (45 percent), Arkansas State Parks (45 percent), Arkansas Heritage Commission (9 percent), and Keep Arkansas Beautiful Commission (1 percent).¹⁷⁰ In fiscal year 2023 the conservation sales tax generated \$47 million.¹⁷¹

¹⁶⁷ Georgia Department of Natural Resources. Georgia Outdoor Stewardship Program. <https://gadnr.org/gosp>

¹⁶⁸ Georgia Department of Natural Resources. Georgia Conservation Tax Credit Program. <https://gadnr.org/GCTCP>

¹⁶⁹ Arkansas Code Annotated §15-12-101 through §15-12-103

¹⁷⁰ Arkansas Code Annotated §19-6-484; §19-6-301(193)

¹⁷¹ Arkansas Game and Fish Commission. Annual Report 2023.

The **Wetland and Riparian Zones Tax Credit Program** allows a state income tax credit to be taken by taxpayers who engage in the development, restoration, or conservation of wetland and riparian zones.¹⁷²

Texas

In 2023, voters approved the \$1 billion **Centennial Parks Conservation Fund** dedicating a portion of state budget surplus for acquiring and developing state parks.¹⁷³

The **Texas Sporting Goods Sales Tax** supports state parks and historic sites. In 2019, voters approved dedicating the estimated portion of state tax revenue collected from the sale of sporting goods from the existing 6.25 percent general sales tax.¹⁷⁴ In fiscal year 2023 it generated \$249 million.¹⁷⁵

The **Texas Farm and Ranch Lands Conservation Program** protects working lands from fragmentation and development through conservation easements.¹⁷⁶ Land trusts are approved easement holders.¹⁷⁷ It is funded by appropriations, which are generally around \$2 million.

¹⁷² Arkansas Department of Agriculture. Wetland and Riparian Zones Tax Credit Program.

<https://www.agriculture.arkansas.gov/natural-resources/divisions/water-management/wetlands-riparian-zone-tax-credit-program/>

¹⁷³ Texas Parks and Wildlife Department, Commission Thank Texans for Approving Prop 14.

<https://tpwd.texas.gov/newsmedia/releases/?req=20231108a#:~:text=Proposition%2014%2C%20which%20creates%20the,acquiring%20and%20developing%20state%20parks.>

¹⁷⁴ Texas Legislative Budget Board. Sporting Goods Sales Tax (SGST) Summary.

¹⁷⁵ Texas Comptroller of Public Accounts. 2023 State of Texas Annual Cash Report: Revenues & Expenditures of State Funds for the Year Ended August 31, 2023.

¹⁷⁶ Texas Parks & Wildlife. Texas Farm and Ranch Lands Conservation Program.

<https://tpwd.texas.gov/landwater/land/private/farm-and-ranch/>

¹⁷⁷ Texas Parks & Wildlife. Texas Farm and Ranch Lands Conservation Program. Approved Grant Projects.

<https://tpwd.texas.gov/landwater/land/private/farm-and-ranch/approved-grant-projects.phtml>