

LINKING LANDSCAPES FOR WILDLIFE & SAFETY

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WHY IT MATTERS

From the Appalachians and Blue Ridge to the Piedmont and Coastal Plain, Virginia sits at the crossroads of East Coast ecosystems, climate migration corridors, and human development. Black bears, bobcats, wood turtles, and brook trout are among the many species that rely on safe road and stream passage across the state to feed, breed, and adapt to changing habitats. With the third-largest state-maintained highway system in the U.S., Virginia's 70,000+ miles of roads fragment Virginia's landscapes, restrict wildlife movement, isolate populations, and cause frequent wildlife-vehicle collisions.¹

Wildlife crossings, or under/overpasses that facilitate safe animal passage, can improve public safety by significantly reducing collisions. After installing crossings, wildlife-vehicle collisions dropped by over 80% in Banff, Canada, and over 90% in Washington, Colorado, and Nevada.^{2,3} A Central Virginia study found a 96% reduction after adding fencing to funnel wildlife through two existing underpass crossings.⁴ These solutions save lives, lower public and state costs associated with collisions and wildlife population declines, and reconnect vital habitats.

Virginia has ample opportunities to retrofit existing underpasses with directional fencing, a cost-effective strategy that studies have shown can pay for itself in less than two years.⁵ Fencing paired with underpasses designed to more closely resemble a natural streambed offers even greater returns for ecological function and boosts our infrastructure's resilience to floods. These nature-based solutions, such as upsized culverts and underpasses, reduce maintenance needs and are less likely to fail during extreme precipitation events than outdated structures that are easily blocked by debris.⁶

In a time when federal funding and policy are in flux,

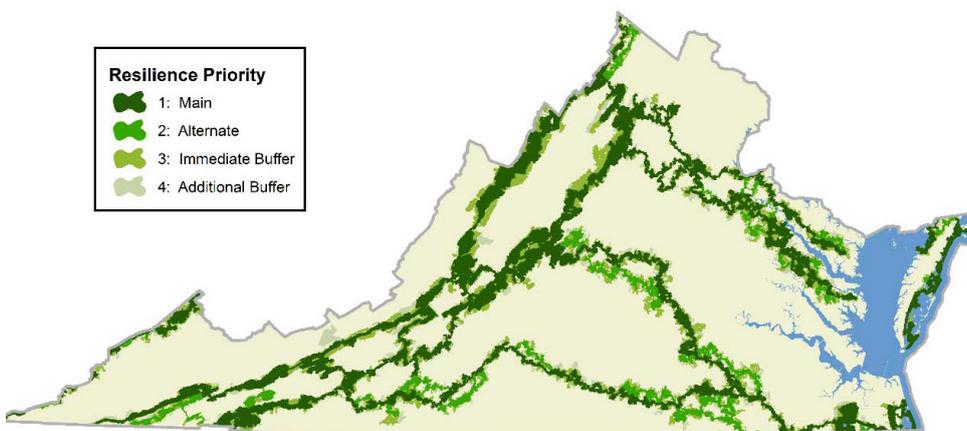
habitat connectivity must become a priority across local, regional, and state planning, with nature-based infrastructure treated as the norm, rather than the exception.

CURRENT LANDSCAPE

Virginia is making progress toward integrating habitat connectivity into planning frameworks. In 2023, the Wildlife Corridor Action Plan (WCAP) identified Wildlife Biodiversity Resilience Corridors across the state. These are priority landscapes where restoring habitat connectivity will effectively support species movement and long-term ecosystem resilience in a changing climate. The Virginia Land Conservation Foundation now awards higher scores to conservation projects located in these Wildlife Biodiversity Resilience Corridors, and in 2025, the legislature also recently allocated \$450,000 in the state budget for priority wildlife crossing projects identified in the WCAP. While climate adaptation and resilience are increasingly encouraged in transportation planning, wildlife-friendly infrastructure is still not required. As a result, most projects continue to use conventional designs that do not support wildlife movement.

These steps are promising, but without sustained funding, agencies, Tribes, and localities face inconsistent and inequitable access to connectivity resources. When funds are limited, smaller, underinvested communities are left without support for crossing planning, implementation, or maintenance. Even in areas with high wildlife-vehicle collision or flood risks, limited capacity and low awareness of the long-term cost savings of wildlife crossings can stall progress.

Another major barrier to connectivity project implementation is Virginia's lack of consistent, statewide data on wildlife-vehicle collisions. While some Virginia Department of Transportation (VDOT) districts track where animals are struck and what species are



Wildlife Biodiversity Resilience
Corridors for 2023 Wildlife
Corridor Action Plan
Map by Virginia Department of
Wildlife Resources

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involved, there is no required system in place across the state. This data gap makes it difficult to identify where wildlife crossings are most needed, build support for projects, and compete for federal, state, and private funding.

Virginia has the initial tools, public support, and agency collaboration in place to move from planning to implementing wildlife crossings. However, safe wildlife passage and permanent funding must be prioritized for long-term change, especially for communities most impacted by flooding, wildlife-vehicle collisions, habitat fragmentation, and historic underinvestment.

OPPORTUNITIES

Virginia has a promising opportunity to establish a Wildlife Corridor Grant Fund, supported by voluntary donations, grants, and potentially supplemented by state appropriations. This would empower agencies, Tribes, and localities with the funds needed to build wildlife crossings without relying on limited state infrastructure budgets. Importantly, the fund would be guided by clear criteria to ensure resources are directed where they are needed most, including

prioritizing projects within identified Wildlife Biodiversity Resilience Corridors, high flood-risk areas, and underserved communities.

At the same time, strategic investment in data collection is essential to identify priority areas for wildlife-vehicle conflict mitigation. A pilot carcass removal app is currently used in select areas, but VDOT contractors could utilize it statewide to ensure agencies have the information they need to place crossings in the best possible locations. A modest investment of \$50,000 would enable a statewide rollout of the app, costs that could be supported through the Wildlife Corridor Grant Fund.

Finally, training for VDOT staff on the importance of habitat connectivity would strengthen support and implementation of wildlife-safe passage and broaden awareness of the long-term cost benefits of wildlife crossings. Together, sustainable funding, training, and comprehensive data collection can lay the groundwork for agencies, especially VDOT, to adopt policies that include connectivity in all state infrastructure planning efforts.

TOP TAKEAWAYS

Wildlife crossings are a proven, cost-effective solution that reconnects fragmented habitats, reduces collisions, and strengthens both ecological and community resilience across Virginia's increasingly developed landscapes.

Incorporating terrestrial and aquatic connectivity training into state agency professional development programs and requiring better data collection will help identify priority areas for wildlife crossings and target investments where they will have the greatest impact.

A Wildlife Corridor Grant Fund with clear distribution criteria will provide resources and incentives to advance connectivity statewide.

ENDNOTES

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