



25 Years of Trends & Drivers of State Habitat Connectivity Legislation

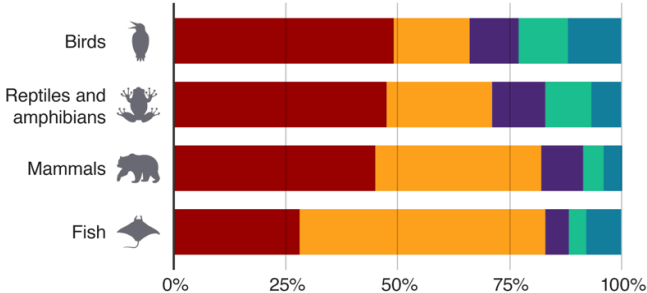
Executive Summary

Biodiversity Loss, Habitat Connectivity and Wildlife Crossings

Biodiversity loss is one of the more challenging environmental issues of our time. Luckily, habitat connectivity and wildlife crossing projects can help provide nature-based solutions to the biodiversity crisis.

Habitat connectivity is the degree to which landscapes facilitate the movement of species and the flow of ecological processes across various habitats¹. Connectivity is essential for critical ecological processes like pollination, nutrient cycling, and gene flow². If wildlife cannot move throughout our landscape to find food and water resources, climate refugia, and genetically diverse mates, species have a much higher risk of becoming endangered. Conserving habitat connectivity is a nature-based solution that helps wildlife adapt to our changing climate. In fact, “increasing connectivity is one of the most frequently recommended climate adaptation strategies for biodiversity management,” as it will allow species to move to higher, cooler ground during extreme heat events and move to find food and water resources during increased periods of drought³. Habitat connectivity is also essential to human communities, as intact habitats provide ecosystem services to people, such as flood risk reduction and access to nature.

Habitat loss is a major threat to biodiversity
 The Living Planet Report assesses key drivers of species decline



Note: A sample of 3,789 populations evaluated by the Living Planet Index

Source: WWF, Living Planet Report 2018

- Habitat degradation
- Exploitation
- Invasive species and disease
- Pollution
- Climate Change

Habitat connectivity is often threatened by infrastructure like fences, roads, and irrigation canals. As a result, many state and federal legislators are interested in legislation encouraging wildlife corridor conservation and wildlife-friendly infrastructure, such as wildlife crossings. As an added benefit, properly-sited wildlife crossing infrastructure can reduce wildlife-vehicle collisions by over 90 percent, helping reduce driver deaths, injuries, and costs from damage to vehicles and infrastructure.

Key Terms⁴

Wildlife Corridor	Areas on the landscape that enable wildlife to move between larger areas of intact habitat for seasonal migrations or to find food, water, and mates ⁴ .
Wildlife Crossing	Human-made structures such as bridges or tunnels that help wildlife move safely over roads and other infrastructure, thereby reducing barriers to movement and wildlife-vehicle collisions.
Habitat Connectivity	The degree to which landscapes facilitate the movement of species and the flow of ecological processes across various habitats.

Support from all levels of government, tribal engagement and assistance, and private landowner buy-in and participation are needed to conserve and restore habitat and habitat connectivity and continue to build more wildlife-friendly infrastructure. **The full report, which will be released Friday, May 10th, will show how state legislators can play a role in advancing this nature-based solution and how federal funding and support can and has catalyzed state legislative action⁵.**

Our forthcoming report focuses on legislation passed by state lawmakers that conserves or restores habitat connectivity and advances wildlife-friendly infrastructure. Over the last 25 years, states have passed roughly 75 pieces of connectivity-related legislation. The most significant impact on interest, introduction, and passage of legislation to date has come from federal policy and funding and state education through efforts like Wildlands Network’s panel at NCEL’s National Forum.

25 Years of Action at a Glance

- In 1999, Florida enacted the Florida Forever Act, which included connectivity language.
- In 2008, California enacted its first substantial piece of habitat connectivity legislation.
- In 2016, Alabama and New Hampshire became the next states to pass legislation encouraging habitat connectivity conservation.
- In 2018, the Secretary of the Interior signed Secretarial Order 3362, "Improving Habitat Quality in Western Big Game Winter Range and Migration Corridors."
- Later in 2018, the National Caucus of Environmental Legislators held its National Forum and invited Wildlands Network and others to speak on a panel about wildlife conservation and habitat connectivity. 135 legislators from 37 states attended the forum, and several walked away with a Wildlands Network's model wildlife corridor legislative concept that they hoped to bring back and tailor to their states.
- At this time, lack of funding is a significant barrier to building wildlife crossings. In a survey of almost 500 federal and state Department of Transportation representatives, 67 percent of respondents selected "funding" as the single largest obstacle to nationwide systemic deployment of wildlife crossing infrastructure⁶.
- In 2021, Congress answered the call for funding with the Bipartisan Infrastructure Law (also known as the Infrastructure Investment and Jobs Act). The bill included more than \$1 billion in funding and over 15 federal grant programs for states to pursue wildlife crossing infrastructure and habitat connectivity projects.



Photos by: Bram/Adobe Stock
Photos by: MizC/Adobe Stock

- The Wildlife Crossing Pilot Program⁷ is the first and only one of those BIL programs to provide \$350 million in dedicated federal funding for both the construction of wildlife crossing infrastructure and the studies needed to produce quality, shovel-ready projects. This grant program requires applicants to provide non-federal matching dollars, which has driven several states to pursue funding legislation in 2022, 2023, and now 2024.
- During that same time frame, states without shovel-ready projects also worked to pass connectivity legislation that would ready themselves to apply for BIL grant funding by requiring the study of wildlife-vehicle collision hotspots within their jurisdictions.
- The BIL also provided funding sources to support the new America the Beautiful Change Grant program, a public-private grant program that funds locally-led ecosystem restoration projects, including habitat connectivity projects. The program began in 2021 and is currently offering \$119 million in the FY 2024 Request for Proposal.
- Lastly, in 2022, Congress passed the Inflation Reduction Act, which provided billions of dollars for conservation programs, including many incentives to encourage the fast-scale build-out of renewable energy projects to help combat the climate crisis⁸. The expected boom in utility-scale energy projects has led many conservation organizations and state legislators to consider legislation that would ensure renewable energy projects are sited in places that reduce impacts to habitat and habitat connectivity.

The Wildlife Crossings Pilot Program: The demand for the first round of funding far exceeded what was available. According to a verbal report given by Federal Highway Administration (FHWA) representatives at the 2023 Colorado Wildlife and Transportation Summit, there were over 65 applications from 34 states requesting over almost \$550 million in federal grants to support over \$700 million in projects. In short, applicants requested almost twice the amount of the entire program in the first round of the five-year program. In debriefs held after announcing the grants,

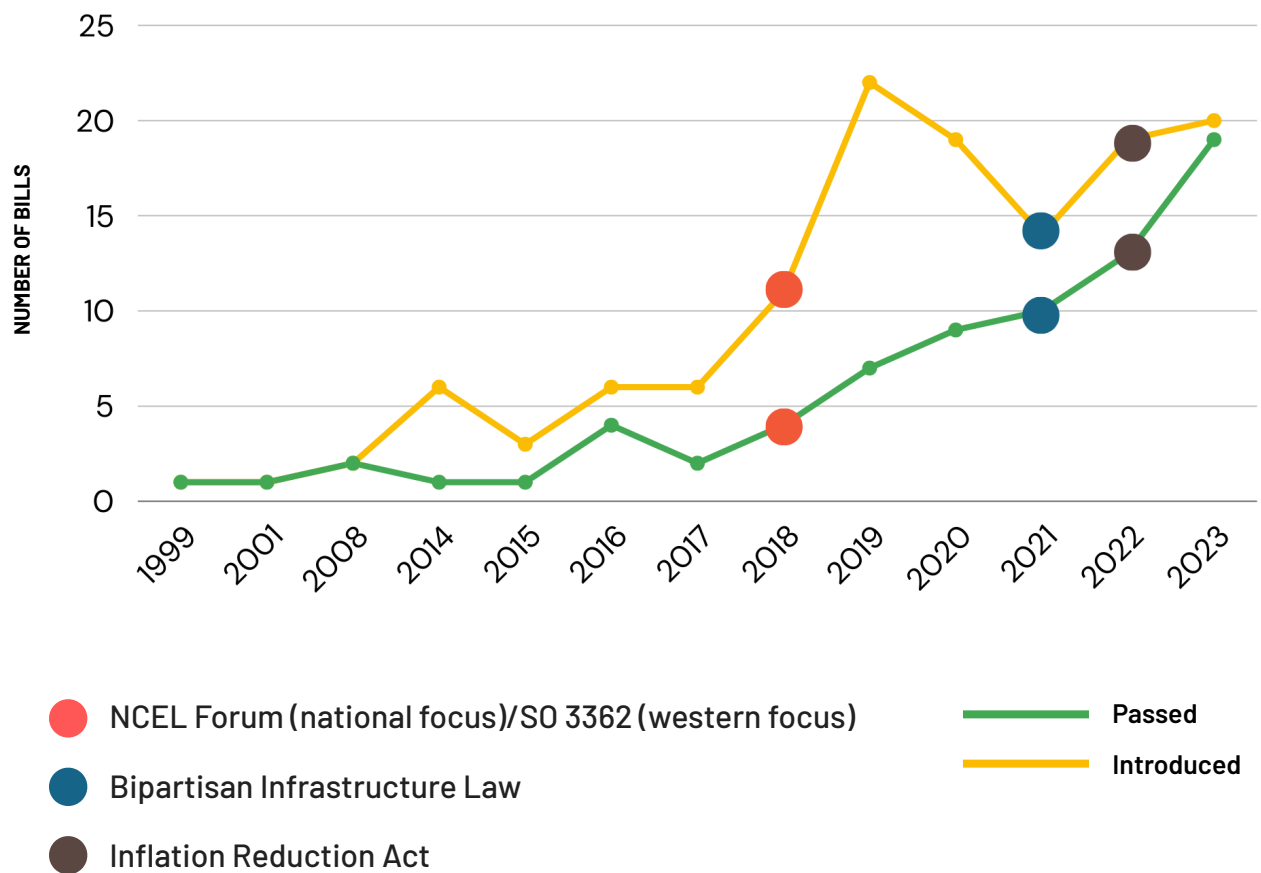
FHWA also told applicants that of the \$550 million in requests, roughly \$288 million worth of those requests had advanced to the highly recommended project round. Thus, in the first round alone, the demand for funding for highly recommended projects in the first round amounted to more than half of what is available for the entire program. As a result, the Wildlife Crossings Pilot Program will likely need to become permanent, with more robust funding to continue supporting this swift pace of quality wildlife crossing project development and state legislative action.



Photos by: Wildlands Network
Photos by: Alena Mozhjer/Adobe Stock

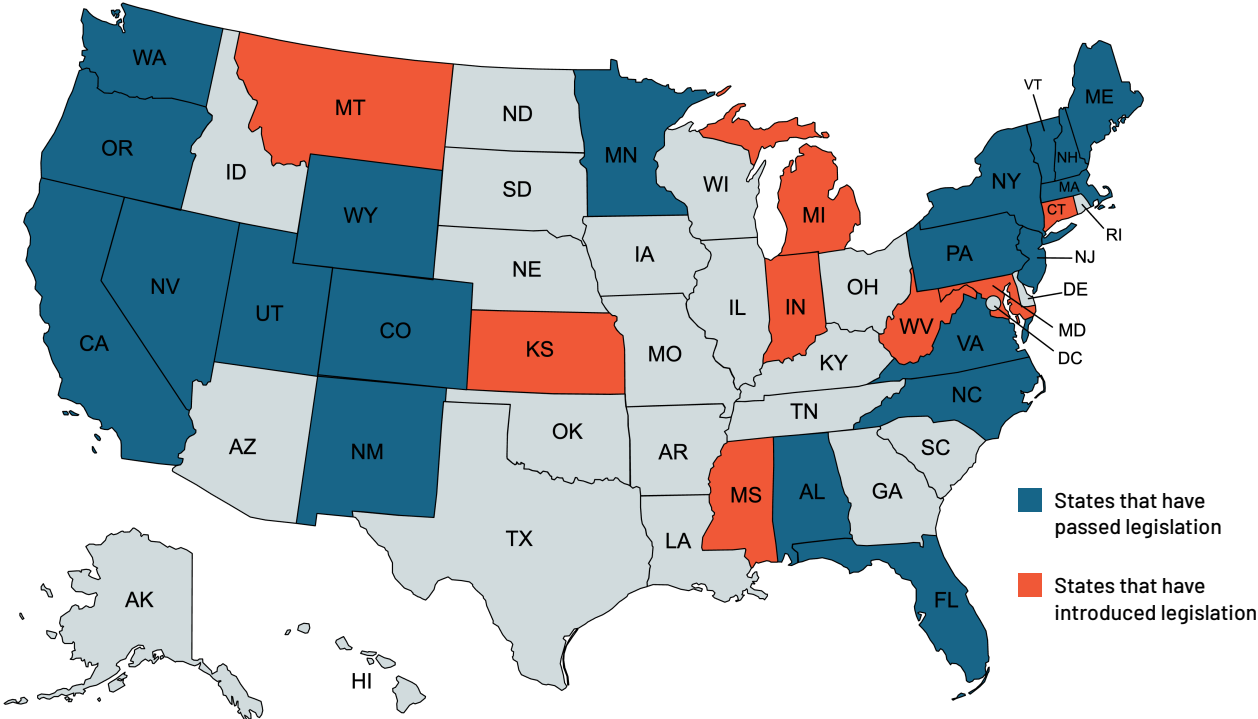
The line graph below portrays the above catalyzing events alongside the amount of habitat connectivity legislation introduced and enacted since 1999. Immediately below that line graph is a map of all states that have introduced and enacted legislation. Since 1999, roughly 75 pieces of habitat connectivity legislation have been passed in the United States, with the majority passed in 2019 and beyond.

State Legislation Passed and Introduced

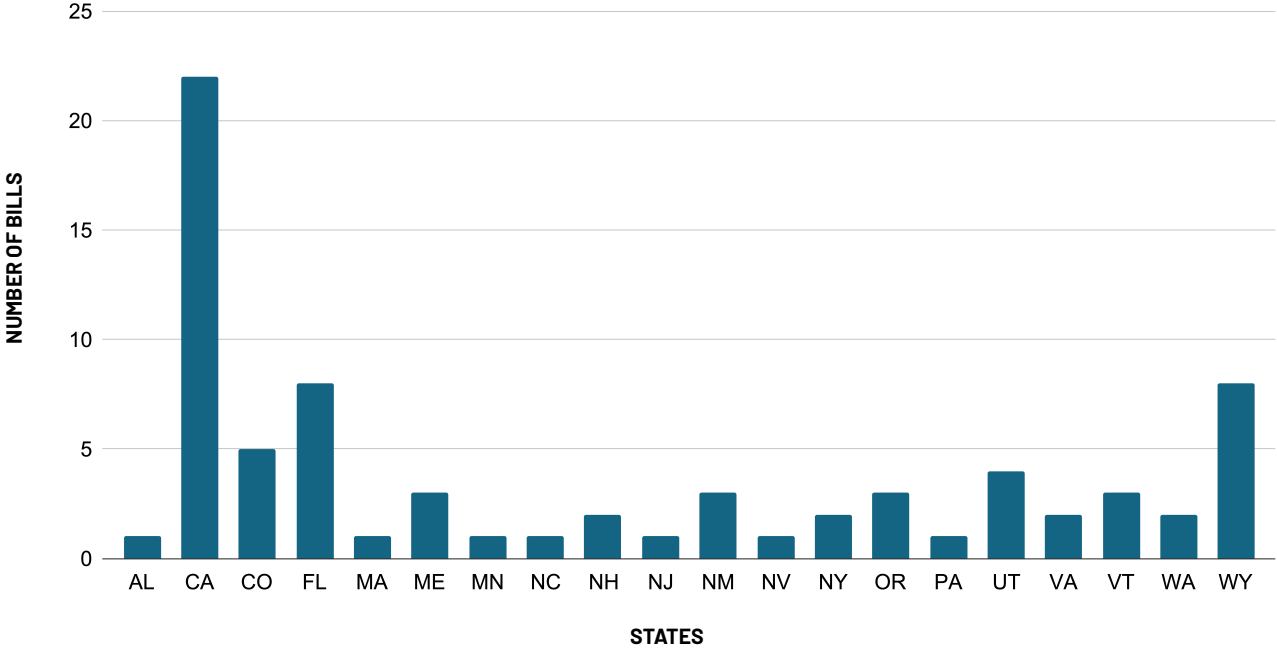


Note: 2014 is the year this graph starts tracking introduced legislation

States Passing Legislation



Amount of Legislation Passed by States



Approaches to State Habitat Connectivity Legislation

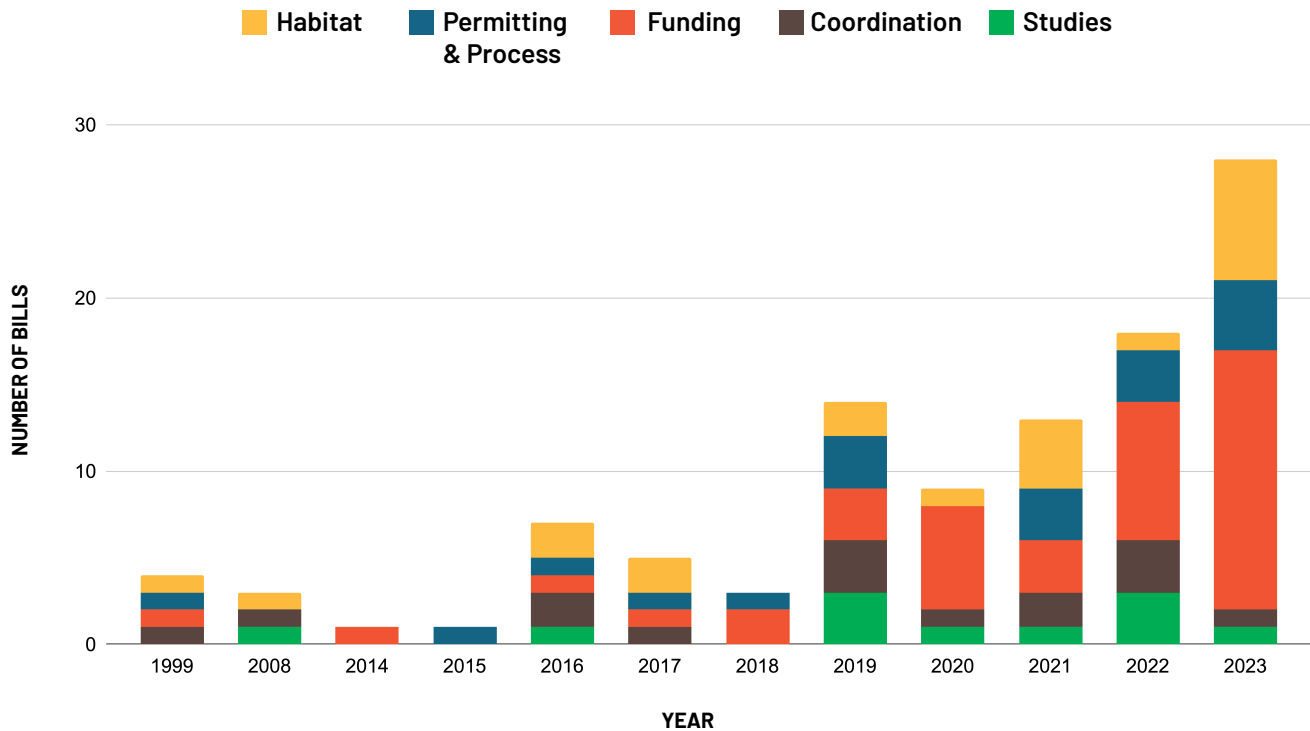
After looking at the roughly 75 pieces of habitat connectivity legislation, five clear categories of legislation have emerged over the years.

Naturally, much of the legislation passed falls into multiple categories.

- A. **Studies:** Identifying wildlife corridors, crossing sites, or the benefits of improving habitat connectivity.
- B. **Coordination:** Aligning state agencies, Tribes, non-governmental organizations, funders, and other partners to address habitat connectivity issues.
- C. **Funding:** Providing funding for wildlife crossing projects including for coordination, planning, construction, monitoring, or for protection of wildlife corridors.
- D. **Permitting and Process:** Updating agency regulations, documents, and processes to require agencies to include habitat connectivity considerations in project planning.
- E. **Habitat:** Protecting major habitat areas and movement corridors through special designations, land acquisitions, or habitat restoration.

Those interested in pursuing or supporting habitat connectivity legislation can determine what type, or blend of types would best fit the needs of their state after analyzing where their states are in the process of (1) identifying, (2) prioritizing, (3) planning, and (4) implementing wildlife crossing infrastructure and habitat connectivity projects. Some states have already completed studies without legislative directives or are in the process of conducting those statewide studies after winning Wildlife Crossings Pilot Program grants, as is the case with South Dakota and Missouri. No matter what step a state is on, funding for all of these steps is usually critical, as is public involvement and transparency where possible, so agencies can benefit from sharing resources with non-agency experts and other essential community members.

Type of Legislation



Our forthcoming full report will dive into the history and catalysts driving 25 years of connectivity legislation, offer different pathways to pursuing connectivity policy, and provide case studies of states that have had success pursuing the above approaches to state habitat connectivity legislation.

For more information on this report or on habitat connectivity legislation, please contact:

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Cover photo by: Tabor Chichakly

Citations

¹ United Nations Env't. Programme, 2019, *Frontiers 2018/19: Emerging Issues of Environmental Concern*. <https://wedocs.unep.org/20.500.11822/27538>

² Haddad, Nick M et al. "Habitat fragmentation and its lasting impact on Earth's ecosystems." *Science Advances* vol. 1,2 e1500052. 20 Mar. 2015, doi:10.1126/sciadv.1500052

³ Guidance for Federal Departments and Agencies on Ecological Connectivity and Wildlife Corridors, The White House Counsel on Env't Quality (2023)(citing Heller, N.E., and E.S. Zavaleta. (2009). *Biodiversity management in the face of climate change: a review of 22 years of recommendations*. *Biological conservation* 142, no. 1: 14-32.)

⁴ *Corridors vs Crossings*, Center for Large Landscape Conservation, Retrieved from (last visited March 11, 2024): <https://largelandscapes.org/wp-content/uploads/2020/07/Corridor-Vs-Crossing.pdf>

⁵ Capturing all catalyzing events and actors contributing to this influx of state connectivity legislation is impossible. Scientists and community members have worked hard to identify habitat fragmentation and wildlife-vehicle collisions as serious environmental concerns. Tribes, states, conservationists, and other community members continued to study fragmentation and advocate for change. State legislators took notice and were willing to pursue innovative legislation to address fragmentation and better protect people and wildlife in the process. All of these catalyzing events and actors contributed to the influx of state habitat connectivity legislation, and they continue to do so today.

⁶ *Implementing Wildlife Crossing Infrastructure: Understanding DOT Culture*, Angela V. Kociolek (2014), <https://arc-solutions.org/wp-content/uploads/2014/03/FINAL-ARC-DOT-Survey-Results-and-Tool-Jan-2014.pdf>.

⁷ *Inflation Reduction Act Briefing Book*, NCEL (Dec. 1, 2022), <https://www.ncelenviro.org/resources/inflation-reduction-act-briefing-book/>.

⁸ *Wildlife Crossings Pilot Program Fiscal Year 2022- 2023 Selections*, U.S. Dept. of Transp. Fed. Highway Admin. (2023), <https://highways.dot.gov/sites/fhwa.dot.gov/files/wcpp-grant-selections-table.pdf> (last visited Mar. 11, 2024).