



Tiny Islands of Habitat Caught in a Giant Sea of Highways: Protecting Wildlife from the Dangerous Effects of Habitat Fragmentation

Rome was not built in a day and neither was America's transportation infrastructure. The first road, the King's Highway, was built between 1650 - 1735 and connected most of the original colonies. Since then, we have been building more and more roads, connecting cities, towns, and suburbs into one big transportation network. However, as traveling became easy for us, the same cannot be said for the wildlife. The once vast stretches of forest became sectioned off into tiny islands of habitat caught in a giant sea of highways. **This effect, known as habitat fragmentation, is found to be deadly to many wildlife species in both direct and indirect consequences.**

The lack of safe crossing paths for wildlife across large highways has led to dangerous wildlife-vehicle collisions. Studies found that about [7,000 large wildlife-vehicle collisions](#) happen per year in California as wildlife attempts to cross highways in search of food and territory. **These collisions often result in death to the wildlife, as [almost 100 mountain lions](#) are killed this way each year in California.** The collisions also cause property damage to the vehicle and injury or fatality to the driver. The estimated cost of vehicle damage to Americans caused by wildlife-vehicle collisions is more than [\\$8 billion annually](#).

Isolated wildlife populations also experience unseen indirect consequences. One example is the [lowered genetic diversity](#). Small wildlife populations stranded in a patch of habitat are more likely to become inbred due to the lack of access to potential mates. Inbreeding can cause a variety of health problems in the animal, therefore lowering the health of an entire population. It can also cause fertility problems, leading to fewer offspring being born and able to survive to adulthood. Another issue is the "[edge effect](#)" where the border of the habitat is considered unusable by the wildlife due to the stark difference in microclimate and stronger fluctuations in temperature and humidity between the edge and the center of the habitat. Thus, the habitat area used by the wildlife is usually smaller than the amount of space actually available.

All of these problems spell a "death by a thousand paper-cuts" scenario for California's wildlife. As many as [one-third of all American species](#) are already considered endangered or

vulnerable to extinction. [California contains 305 of those species](#), including San Joaquin kit foxes, California tiger salamanders, and desert tortoises. Predator species are the most vulnerable to the effects of habitat fragmentation because they require large territories to hunt, travel and migrate. Since these species occupy a key role in the health of an ecosystem, their disappearance would spell disaster for the rest of biodiversity.

One solution California and many other states are considering is the creation of wildlife crossings. These green bridges would provide a way for wildlife to cross large highways safely, thus expanding their territory and connecting isolated populations. **States that have implemented wildlife crossings in recent years have found their [wildlife-vehicle collision rates to decrease by 70%](#).**

An example of this is the NWF-led project for Liberty Canyon Wildlife Crossing proposed to be built over Highway 101 in Los Angeles. This wildlife crossing will be built in a location identified as a critical crossing spot for mountain lions, bobcats, gray foxes, coyotes, and mule deer. The project is proposed to be built in 2022 and will be the one largest wildlife crossings in the world. This project was inspired by stories of local wildlife, like the mountain lion P-22 living in Griffith Park, and will be key to reuniting isolated populations and protecting these species from the danger of extinction. To learn more about the Liberty Canyon Wildlife Crossing Project, click [here](#).

However, a big barrier to constructing wildlife crossings is the cost of the project. Crossings like the Liberty Canyon need almost one hundred million in funding to be built and are [dependent upon large donors](#) to meet this goal. This high price includes paying administrative fees to state agencies such as CalTrans for the review and approval of the project.

This is where PCL is stepping in. **We believe that by lowering the costs for constructing a wildlife crossing, we can incentivize other groups to pursue this option as well.** One idea pursued this year was a bill by Assembly Member Richard Bloom, [AB 1189](#), which proposed a fee waiver for the CalTrans administrative fees (ICRP) for wildlife crossing projects that have gathered over half of their funds from private sources. This bill was based on a similar idea that passed in 2018, which significantly reduced the ICRP fees for counties able to fund transportation projects using sales tax revenue, resulting in more projects being built.

Another suggestion for encouraging the development of more wildlife crossings is bill [SB 790](#) by Senator Henry Stern that establishes an advanced mitigations credits program between CalTrans and the California Department of Fish and Wildlife. This idea was based on an MOU between the two agencies where CalTrans received mitigation credits it could apply to other projects in the region in exchange for developing a corridor project for wildlife. This program thus incentivizes CalTrans to develop more projects that increase habitat connectivity, such as building overpasses, underpasses, directional fencing, or providing barrier modifications. This bill has passed through the first house with unanimous votes and will be heard in the Assembly committees in the upcoming weeks.

In addition to the work on the wildlife crossings, PCL is also involved in helping NWF develop a strategy for protecting migration routes for ungulate species. This would include supporting legislation designed to provide funding and resources towards protecting migration routes, empowering Tribes to identify and manage important wildlife corridors, and supporting education and research into identifying further obstacles along migration routes. PCL has helped advocate for federal legislation such as the [Recovering America's Wildlife Act \(RAWA\)](#) and the [Land and Water Conservation Fund \(LWCF\)](#). Both play a key role in the resources California needs to implement State Wildlife Action Plans to helping protect migrating species from adverse impacts and acquire land for new parks and wilderness areas along migration routes. **Another key aspect is the [CNRA's 30x30 Strategic Plan](#),**

where PCL is actively advocating for the acquisition, protection, and maintenance of more wildlife corridors by 2030 among other priorities.

We know that our state's wildlife deserves better protections to prevent the danger of key species extinction. While we had a few wins on this front in the last few years, including [banning SGARs pesticides](#) and [fully funding LWCF](#), we know our work is far from over. **Donate today to help support our efforts in improving wildlife connectivity! They could use our help!**

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