

May 15, 2019

Dear Member of Congress:

I am writing to express my strong support of the National Wildlife Corridor Conservation Act. This act is even more critical in light of the recent UN report on the unprecedented decline of species and the accompanying threat to all life. The most comprehensive study of its kind, this report states that, if no action is taken, more than 1,000,000 species are threatened with extinction over the coming decades because of habitat loss and deterioration. I urge all members of the Senate and House of Representatives to support this bill that would help conserve the interconnectedness of habitats of thousands of our nation's native species, boosting their resilience to climate change and maintaining the health of our country's diverse natural heritage.

Today, many of our most beloved American species – from the Florida Panther to the pronghorn, to Pacific salmon, to the monarch butterfly – are under threat from fragmentation of their habitats. The National Wildlife Corridor Conservation Act would provide for the protection and restoration of our native wildlife by identifying connectivity and corridors within public lands across the country. The addition of corridors to our national system of protected areas would increase the effectiveness of our public lands for wildlife, recreation, and ecosystem services and allow species to shift their ranges in response to climate change and other stresses. In addition, the bill will create a National Native Species Habitats and Corridors Database to compile information about wildlife connectivity that will be shared with states, tribes and other members of the public.

It has long been recognized by the scientific community that protected areas in isolation fail to adequately protect a number of species and ecosystem processes. Often, management of our public lands has protected islands of habitat, resulting in isolated wildlife populations. Wildlife corridors provide connectivity between these habitat patches, sustaining vital natural processes, wildlife populations and biodiversity while allowing species to move in response to climate change.

Over 20 years of published scientific research from 180 scientific studies have shown that maintaining habitat connectivity and corridors are key components for the survival for many wildlife species. Specifically, scientific evidence has shown:

- The rate of extinction of species is accelerating with the current rate 1000 times prehuman levels¹.
- Corridors increase the movement of species between populations by approximately 50% compared to patches that are not connected with corridors². This movement allows species to migrate and to find food and mates, which increases the health of populations and their chances of survival^{3,1}.

¹ Wilson, Edward O, *Half-Earth: Our Planet's Fight for Life*, W.W. Norton, 2016.

² Gilbert-Norton L, Wilson R, Stevens J.R., Beard K.H. 2010. A Meta analytic review of corridor effectiveness. *Conservation Biology* 24: 660-668.

³ Beier P, Noss R.F. 1998. Do habitat corridors provide connectivity? *Conservation Biology* 12: 1241-1252.

⁴ Fahrig L, Merriam G. 1985. Habitat patch connectivity and population survival. *Ecology* 66: 1762-1768.

- Corridors can increase the population sizes of species^{4, 5} and their genetic health⁶.
- Corridors can help maintain important ecosystem services (direct contributions to human well being from healthy ecosystems and wildlife). These include: (1) provisional services such as food and water, (2) regulating services such as climate, disease, disturbance, flood, pests, and soil erosion control, pollination, seed dispersal, and water quality, and (3) cultural services such as recreation and aesthetics⁷. Data from these papers show that decreasing connectivity has a consistently negative effect on pollination and regulation of pests, indicating the importance of connectivity for agriculture and food security.
- Corridors provide opportunities for species to move in response to climate change⁷.
- Corridors are important for maintaining biodiversity⁸.

It is human activity that has caused this extinction crisis. Now, it is human action that can reverse it. In order to prevent a drastic loss of biodiversity and ensure a healthy planet for future generations, we must act quickly to protect key habitats. Threats to the survival of our nation's wildlife include the loss, degradation and fragmentation of natural areas as well as shifting habitats due to climate change. It has been shown that wildlife are shifting their ranges approximately 10 miles further north every decade⁹. This is equivalent to the world's animals shifting 20cm every hour. Therefore, we call upon members of Congress to pass this Act so that our nation can protect those crucial areas that allow our native plants and animals to move and adjust to change. Such an effort will help stitch disparate patches of habitat together into an ecological fabric that will help conserve our natural heritage and be a critical step in protecting America's biodiversity.

Thank you for your consideration of my request.

Sincerely,

Edward O. Wilson
 University Professor Emeritus and Honorary Curator in Entomology
 Museum of Comparative Zoology
 Harvard University

⁵ Haddad N.M., Baum K. 1999. An experimental test of corridor effects on butterfly densities. *Ecological Applications* 9: 623-633.

⁶ Christie M.R., Knowles L. 2015. Habitat corridors facilitate genetic resilience irrespective of species dispersal abilities or population sizes. *Evolutionary Applications* doi: 10.1111/eva.12255.

⁷ Lawler J.J., Ruesch A.S., Olden J.D., McRae B.H. Projected climate driven faunal movement routes. *Ecology Letters* 16: 1014-1022.

⁸ Gonzalez A., Blackburn T.M. 1998. Metapopulation dynamics, abundance, and distribution in a microsystem. *Science* 281: 2045-2047.

⁹ Chen I.C., Hill J.K., Ohlemuller R., Roy D.B., Thomas C.D. 2011. Rapid range shifts of species associated with high levels of climate warming. *Science* 19: 1024-1026.