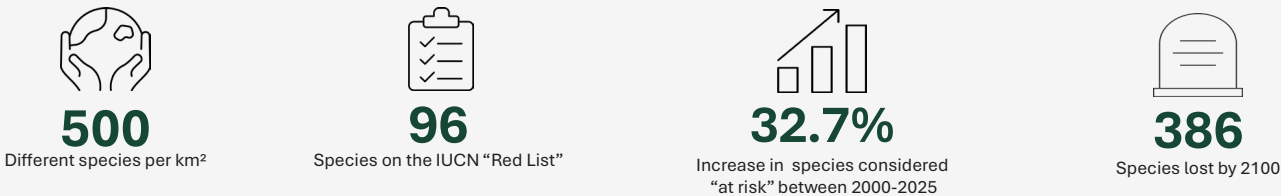


FISH AND WILDLIFE

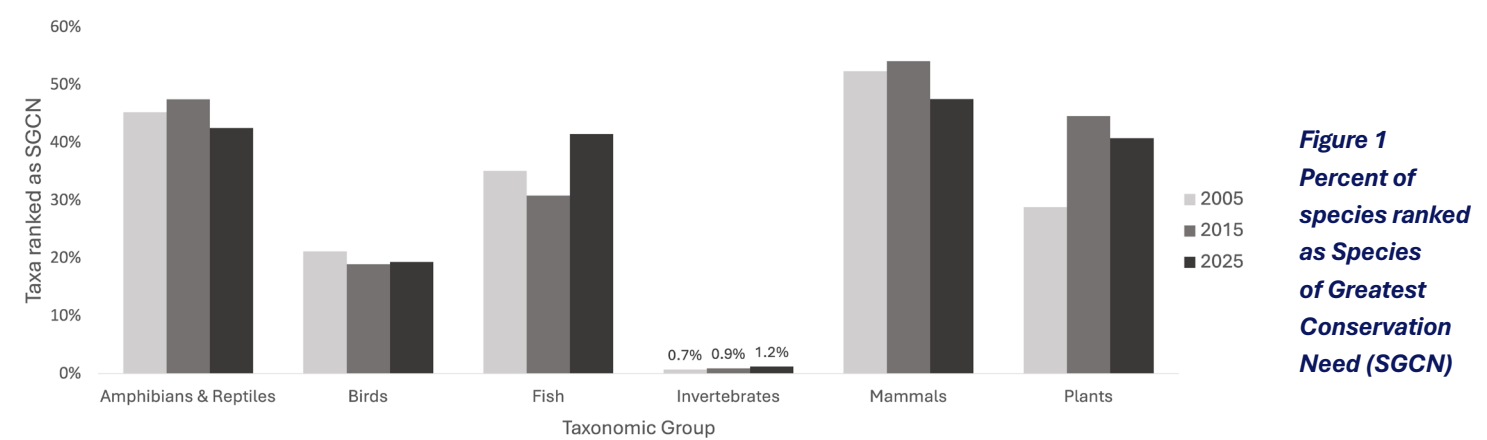
OVERVIEW

Climate change is driving a range of impacts to Vermont’s fish and wildlife, including behavioral changes, shifts in habitat suitability and quality, and broader alterations to ecosystem function. Without significant global climate action, the Vermont Center for Ecostudies predicts that by 2100, Vermont will lose almost 6% of all species (~386 total). Some currently threatened native Vermont species include moose, Canada lynx, spruce grouse, American marten, black-backed woodpecker, and Bicknell’s thrush. Conserving habitat protects fish and wildlife and preserves ecosystem services, like carbon storage, that can help mitigate the effects of climate change.



SPECIES MOVE AS HABITAT CHANGES

Geographic ranges of species are expected to shift northward and toward higher elevations as temperatures warm. Shifting ranges could cause local or regional extinctions of some native Vermont species, such as Bicknell’s thrush, spruce grouse, and Canada lynx. Some non-native species from southern latitudes have already expanded into Vermont including the eastern giant swallowtail. Highly mobile species, like birds, are expanding into Vermont or staying the full year when they have historically been seasonal visitors including eastern bluebirds and red-bellied woodpeckers. Changes in species ranges, combined with habitat loss and other climate change impacts, have increased the number of Vermont species considered “at-risk” by 32.7% (853 to 1,132; Figure 1).



Source: Vermont Fish and Wildlife Department (2005, 2015, 2026a)

POLLINATORS DECLINE AS SEASONS SHIFT

All of the 28 different genera of bees found in Vermont will experience negative impacts from climate change (Figure 2). Many insects already live close to their thermal limit, where small increases in temperature decrease insect survival. Extreme precipitation events wash away pollen. Finally, the window for pollinators to interact with flowering plants is

shortening: flowers in the northeastern U.S. are blooming earlier due to longer growing seasons and warmer temperatures while bee species emergence hasn't changed. Three bumble bee species no longer exist in Vermont, and four more species have experienced population declines greater than 50% compared to pre-2000 population numbers.

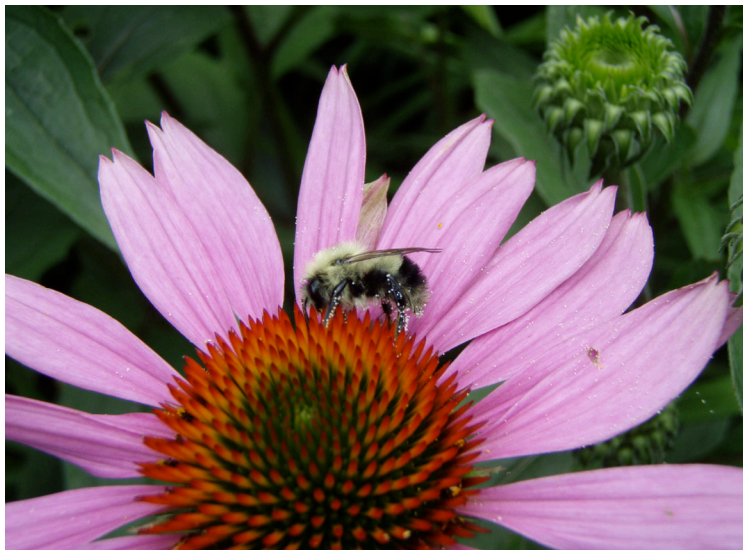


Figure 2 Climate change will negatively impact all bee species found in Vermont due to flooding, drought, or seasonal shifts

Source: Gund Institute for Environment

AQUATIC SPECIES IMPACTED BY FLOODING AND DROUGHT

Flooding increases nutrient, sediment, and pollutant delivery to downstream water bodies. Sediments damage fish spawning beds, reduce light available for photosynthesis, and absorb heat, thereby increasing water temperatures. Pesticides from agricultural fields can be toxic to aquatic plants and animals. Algal blooms, triggered by warmer temperatures and excess nutrients, deplete oxygen levels and can release cyanotoxins, which harm fish, other wildlife, pets, and humans. During the 2025 drought, streams and lakes lost shallow water habitat and became more fragmented, which isolated populations and increased competition for resources. Several Vermont fish species spawn in early summer when drought is likely—including bowfin, longnose gar, rock bass, smallmouth bass, white perch, and white sucker—putting their populations at risk. Drought can also cause vernal pools to dry up for longer time periods affecting

species that rely on that habitat including several amphibian species of conservation concern in Vermont.



Figure 3 Drought conditions existed throughout Vermont during the summer of 2025. This led to historic low water levels and streamflow throughout the state. As a result, habitat connectivity for aquatic species was disrupted

Source: Bob Kinzel for Vermont Public (2025)

ADAPTATIONS AND SOLUTIONS

Many climate change mitigation and adaptation strategies can benefit both people and biodiversity: wider culverts prevent road washout during flooding and improve fish mobility; wetland restoration and conservation increases wildlife habitat and helps mitigate flooding. Vermont's "Community Resilience and Biodiversity Protection Act" aims to conserve 30% of Vermont lands by 2030 and 50% by 2050. Meeting these goals—and therefore preserving a connected landscape of high-quality habitat—will protect biodiversity of Vermont's species and ensure ecosystem stability for future generations.

See the full report at vtclimate.org

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