



PRESSURES IN ESSEX COUNTY INFLUENCING COYOTE POPULATION AND EVOLUTION

HABITAT LOSS

Let's consider a few facts before we can understand how habitat loss affects evolution. The carolinian zone in Essex County consists of:

- 6.50% natural cover, 4.57% of that being forested woodlands
- 97% loss of wetlands

This means wetlands like we would see on the shores of Lake St. Clair and Lake Erie no longer host an abundant ecosystem of beavers, fish, waterfowl that bigger prey like Grey wolves, black bears, birds of prey, or cougars would consume. Lack of tree cover means less habitat for birds, less seed dispersal of native species. Plants requiring large amounts of shade like pawpaws, may not have had time to adapt to quickly increasing sun light.

Lost wetlands and naturally forested areas were abolished so quickly, species didn't have time to adapt to changing environments. To find home along human destruction, it would have had to happen over a few generations.

INVASIVE SPECIES

Invasive species makes it a challenge to restore native habitats, phragmites especially. Due to their quick growth rates, they remove a lot of open water in important ecosystems like preserved wetlands and crowd out native vegetation (Province of Ontario, 2022). Garlic mustard is another example of an invasive species that causes harm to the balance of our ecosystem (Nature Conservancy, 2020). It removes food sources like berries that animals depend on, crowds out areas for new tree growth, and prevents wildflowers from growing like milkweed essential for monarch butterflies

An attempt to restore lost habitat and species in the area will prove to be a challenge as aggressive plants take over the landscape, sucking wetlands dry and preventing the few endangered species (if still around) into extirpation or migrating elsewhere. Since invasive species affect both wetland and forest, its hard for animals to adapt as its suffocating the natural systems out and preventing prairie, savannah and forest habitat from being restored.

Invasive species that are extremely successful choke out native species, limiting their population and reducing their chance of evolving. (Whitney & Gabler, 2008)

URBAN SPRAWL

Urbanization can be beneficial for some species, and absolutely detrimental to the survival of others. For critters like coyotes, raccoons, crows, amongst others, urbanization isn't so bad, especially if they were given time to learn from human habits. But for animals like wolves, elk, and others, who were heavily hunted, their numbers declined quickly forcing them out of habitats before they could evolve adapt to human disturbances. In urban environments, some animals can have different genetic makes up than another population of the same species.

PREDATOR AND PREY

With top predators removed from the food chains, some populations can grow out of control In Essex County there have been culls for deer that are overgrazing the forests of Point Pelee National Park, among others. Some have found traces of deer in the coyotes diet, but its unknown whether the deer was hunted by the coyote or found dead on the side of the road, so whether they help in cases like this is unclear.

Since we drove out the grey wolf, we handed the territory of Essex County over to the coyote. In direct competition for food, the red fox can sometimes be in danger of being outcompeted. Coyotes will go as far as killing red foxes to assure there is enough food resources for them (Boissoneault, 2018). Lack of predators and fast growth rates can create circumstances for a species to overpopulate, expand and grow features that prevent predators, if introduced, to be a danger, which could be the problem with the coywolf hybrid.