Together for Wildlife HCTF Conservation Fellowship
Recipient 2024

Isabel Deutsch

Isabel is a Master's student at the University of Victoria. Their research will assess how reproduction and immigration shape short-term population dynamics in open and closed populations of black-tailed deer on Vancouver Island who have received immunocontraception. These insights have large-scale applicability and can be extended to large urban wildlife species across North America to promote biodiversity.

In urban areas, the absence of natural predators combined with plentiful food resources has allowed deer populations to thrive. On Vancouver Island, BC, immunocontraception (IC) programs have successfully lowered birth rates in urban black-tailed deer (BTD) which have increasingly become a management concern in cities and towns. These programs work by reducing the fertility of female deer, curbing population growth in environments where the traditional checks and balances provided by predators no longer exist. It's suggested that this may only be effective in insolated environments where immigration is minimal. In open environments, population reductions can create gaps for fertile deer to move in, and replenish the population.

Population dynamics, or how a population fluctuates over time, is influenced by both the birth of new individuals and the movement of individuals between populations. Therefore, we must investigate the roles both these factors have in shaping population size. Isabel's study will assess how reproduction and immigration shape short-term population dynamics in open and closed populations of BTD on Vancouver Island who have received IC.

To test this, Isabel will use multistate occupancy modelling, a statistical approach that allows her to track changes in reproductive success across different habitat types and over time. By understanding BTD population dynamics, we can forecast reproductive success, equipping us with the tools to make well-informed conservation and management decisions. Ultimately, Isabel's research seeks to contribute to a better understanding of how BTD populations can be managed in urban environments.

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