

EXECUTIVE SUMMARY

Oak Bay Urban Deer Project - Final Report (March 2025)

The Oak Bay Urban Deer Project was a comprehensive six-year study (2018–2024) assessing the ecology and management of black-tailed deer in the suburban municipality of Oak Bay, British Columbia. This project aimed to develop and evaluate a scientifically rigorous, non-lethal method for urban deer population control using immuno-contraception (IC).

Key Objectives

- Estimate black-tailed deer population density and trends over time.
- Understand how reproductive status affects habitat selection.
- Evaluate the efficacy of immuno-contraceptive treatments on population density.
- Compare urban deer density with those in natural, non-urban environments.

Implications for Urban Wildlife Management

- IC provides a feasible, non-lethal alternative to culling for managing urban deer populations.
- Public education and municipal planning should consider the role of urban landscaping in supporting high deer densities. Yard fencing, especially on large residential lots, would reduce deer forage and deer abundance. Golf courses and parks do not contribute much to deer distribution.
- Monitoring before and after treatment is critical to evaluating sustained IC effects and ecological outcomes.

Major Findings

- **Effectiveness of Immuno-Contraception**
The IC program, which treated 120 female deer with PZP vaccines between 2019–2021, significantly reduced fawning rates in treated individuals. Camera trap data confirmed lower reproductive success in treated versus untreated deer.
- **Deer Density Trends**
Deer density in Oak Bay declined following IC implementation, demonstrating the method's viability as a short-term population management tool. However, after IC stopped, populations began to rebound due to a combination of deer influx into Oak Bay and resumed reproduction. Findings suggest IC should be expanded regionally and repeated every ~5 years.
- **Habitat Selection Patterns**
Urban deer showed a strong preference for affluent neighbourhoods with large residential lots and irrigated gardens—an example of the “luxury effect.” Mothers (with fawns) avoided roads and selected areas offering both forage and protective cover, while non-mothers were less selective.
- **Space Use and Movement**
Collared female deer maintained small home ranges (mean 0.64 km²), reflecting the high resource availability within suburban Oak Bay.
- **Comparison with Natural Areas**
Deer densities in Oak Bay were up to 6 times higher than those found in nearby natural landscapes, highlighting the influence of urban resource subsidies and lack of predators.