

The Eastern Grey Squirrel on Vancouver Island, British Columbia: Monitoring Range Expansion and Evaluating Hormonal Sterilization as a Potential Control Strategy



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Introduction

The Eastern Grey Squirrel is an introduced, non-native species to Vancouver Island, BC, Canada. In 1966, Eastern Grey Squirrels were transported from Ontario to a game farm in Metchosin, on the southern tip of Vancouver Island. The grey squirrels quickly escaped. Since their introduction in 1966, Eastern Grey Squirrel populations have increased and spread northward along Vancouver Island.



The Grey and Black Colour Morph of the Eastern Grey Squirrel

Study Species: The Eastern Grey Squirrel *Sciurus carolinensis*



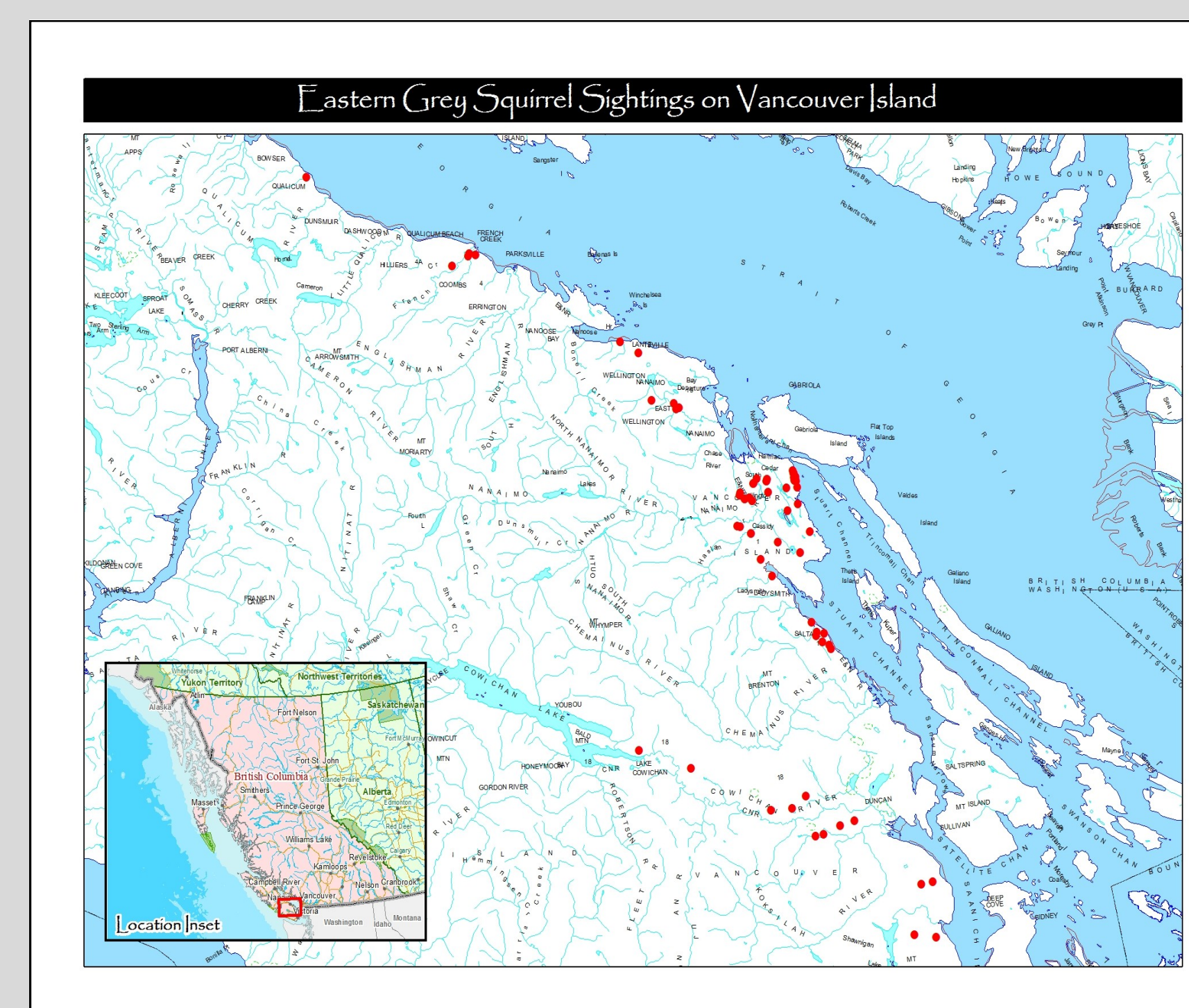
- Large arboreal squirrel native to eastern North America
- Two common colour morphs, grey and black
- Twice the size of native American red squirrel
- Introduced into various regions of the world outside natural range, where they have had large negative impacts
- On Vancouver Island, may pose a threat to native plants and animals; native American red squirrel, certain bird species, and Garry Oak Ecosystems
- On Vancouver Island, Eastern Grey Squirrels have caused damage to homes, gardens, and depleted local nut harvests

Research Objectives

- Raise awareness among the public, pest control companies, and wildlife rehabilitation facilities about the spread and impacts of the Eastern Grey Squirrel
- Map the current distribution of the Eastern Grey Squirrel on Vancouver Island - correlate distribution with habitat, potential travel corridors, and habitat disturbance
- Evaluate the efficacy of a hormonal implant, Suprelorin®, at suppressing reproduction in Eastern Grey Squirrels
- Measure home ranges and habitat use using radio telemetry

Mapping the Current Distribution on Vancouver Island

- Collect data on squirrel sightings from the public
- Recently developed a web based public reporting system
- Input data into a database linked to GIS mapping program
- In the future develop a spatially explicit interactive map that is accessible and updated by the public via our website



Preliminary map of Eastern Grey Squirrel sightings on Vancouver Island

Public Outreach

- Posters and brochures distributed to locations with low squirrel abundance; containing information on their introduction, physical appearance, concerns, and contact information for sighting reports
- Development of a website providing additional information on the species and research project, as well as answers to frequently asked questions
- Dissemination of information via the media, news paper articles, and naturalist groups
- Development of standardized questionnaires for pest control companies and wildlife rehabilitation facilities regarding potential relocations

What is Suprelorin® and How Does it Work?

- Hormonal implant that temporarily sterilizes mammals by suppressing pituitary and gonadal hormone production, reducing sexual interest and aggression
- Implanted between the shoulder blades of the animal and the hormone is slowly released
- Active ingredient is the hormone deslorelin
- Currently used as method of sterilization by rehabilitation facilities on female Eastern Grey Squirrels before their release
- Commonly used for dogs, has been effective in bats, has not yet been tested in Eastern Grey Squirrels



Evaluating Suprelorin® as a Potential Control Strategy

- One year experimental period: Jul 2009-Jul 2010
- 40 female Eastern Grey Squirrels will be captured and ear tagged
- 20 non-lactating females will be implanted with the hormonal contraceptive and the other 20 will be experimental controls
- All squirrels will be trapped every two weeks and assessed for breeding activity (lactating or non-lactating)

Identifying Home Range and Habitat Use

- Eight month experimental period: Aug 2009-Mar 2010
- 15 Eastern Grey Squirrels will be fitted with radio-collars
- Radio collars will be put on both sterilized and unsterilized squirrels
- Home range and habitat use will be determined weekly by their location
- Detailed behavioural observations will be made to evaluate any differences in levels of territoriality between the sterilized and unsterilized squirrels

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