SPATIAL ECOLOGY OF WILD BOAR

Spatial ecology of invasive wild boar (*Sus scrofa*) in Canada: Informing population and disease control

Authors
Devin Fitzpatrick[1], Ryan Brook[2], Kim Pepin[3], Rob Deardon[1], Mathieu Pruvot[1]

Affiliations
[1]University of Calgary, [2]University of Saskatchewan, [3]United States Department of Agriculture

BACKGROUND

- Invasive wild boar populations threaten ecosystem and public health in North America, causing severe destruction to wildlife habitat and crops and acting as a reservoir for pathogens.

- Diseases, such as African swine fever (ASF), can be transmitted to livestock and other wildlife, resulting in severe economic losses and animal welfare concerns.

- Knowledge gaps in wild boar spatial ecology specific to Canadian populations currently hinder development of effective control strategies in Alberta.

OBJECTIVE 1

Establish the current **distribution** of invasive wild boar in Alberta and predict where the species is likely to **spread**.

METHODS

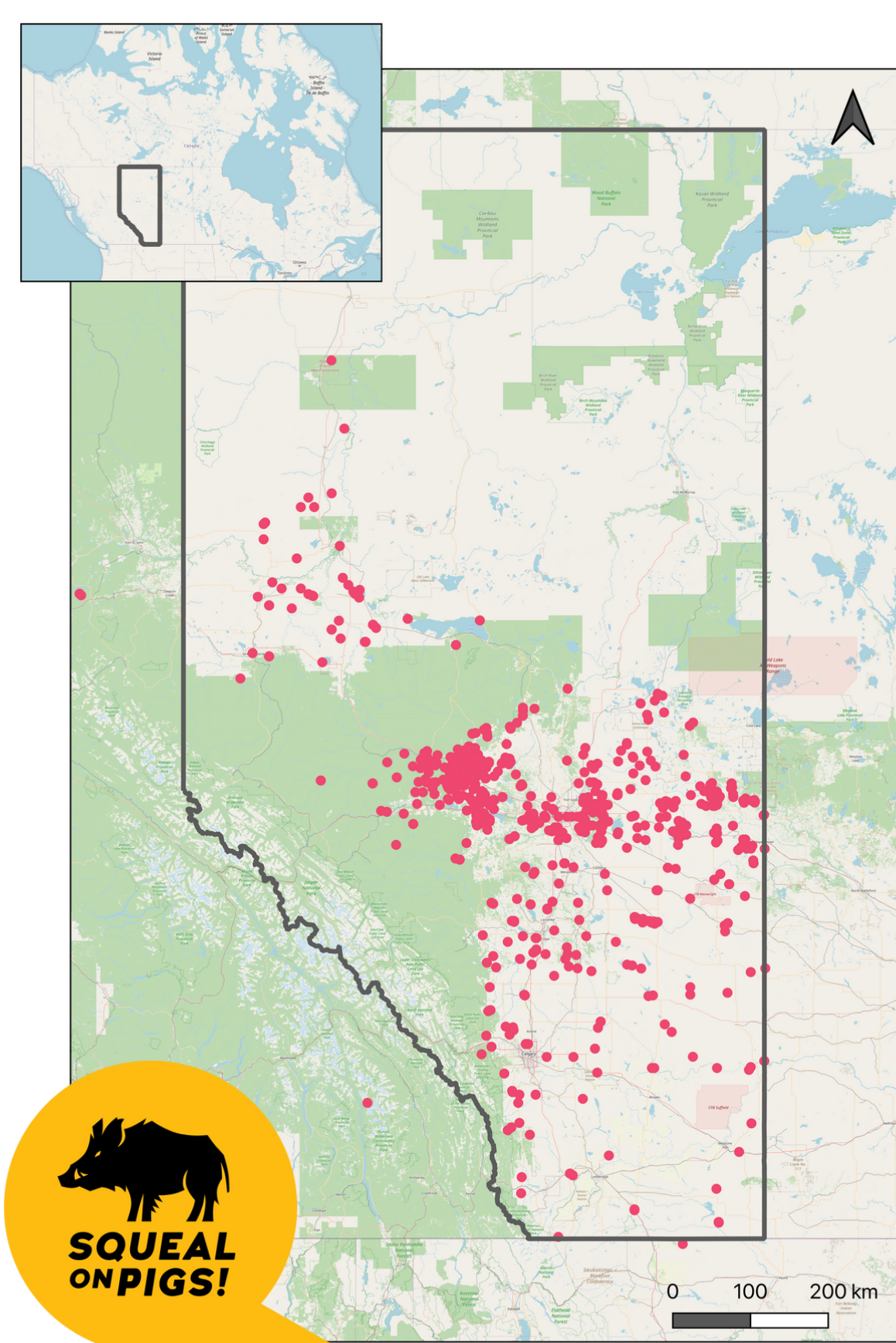- Species distribution modelling using public reporting data.

SQUEAL ON PIGS!

Fig. 1. Wild boar observations (sighting and bounty records) in Alberta from 2003 to 2023.
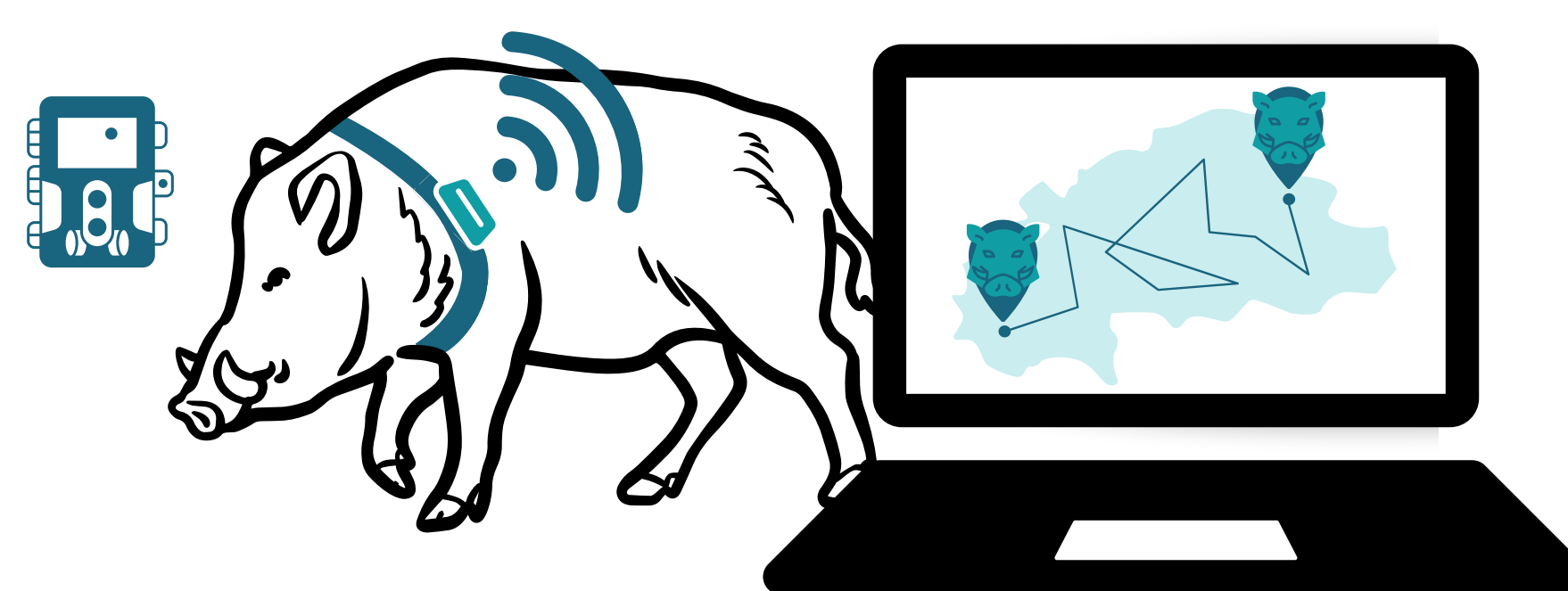
EXPECTED OUTCOMES

- Identify priority areas for management in the province.

OBJECTIVE 2

Determine the **population characteristics** of wild boar in Alberta.

METHODS

- Analyses using camera trap and GPS telemetry collar data.
  - Density
  - Home range
  - Habitat use

EXPECTED OUTCOMES

- Determine whether current wild boar density can support the spread and persistence of ASF in Alberta.

- Dictate size requirements for buffer zones around ASF detection sites.

- Guide spatial distribution of live traps and rapid response detection devices (i.e., camera traps).

OBJECTIVE 3

Examine **contact patterns** within and between wild boar sounders and the consequences of these for **disease transmission** in Alberta.

METHODS

- Analyses using camera trap and GPS telemetry collar data.
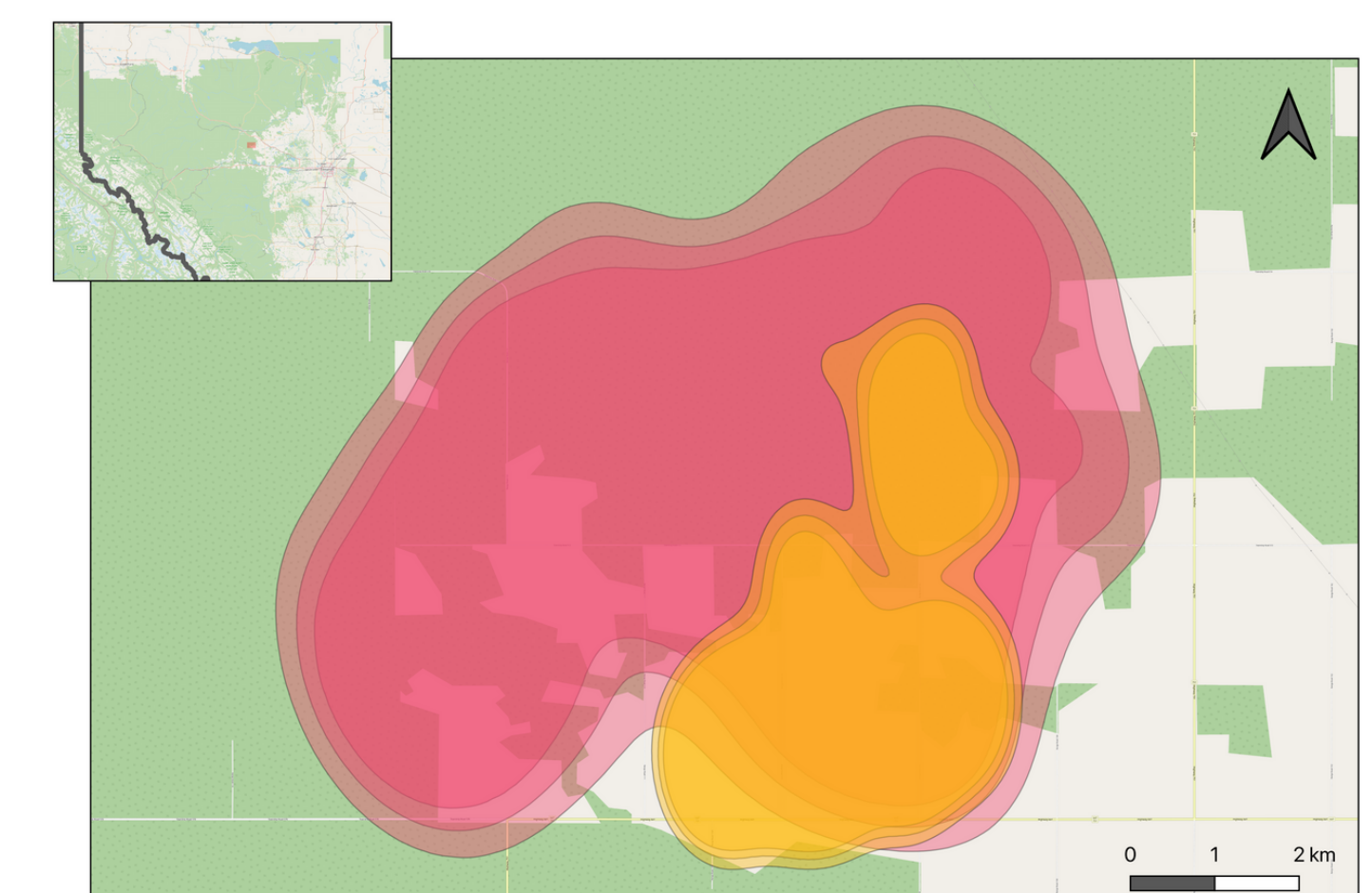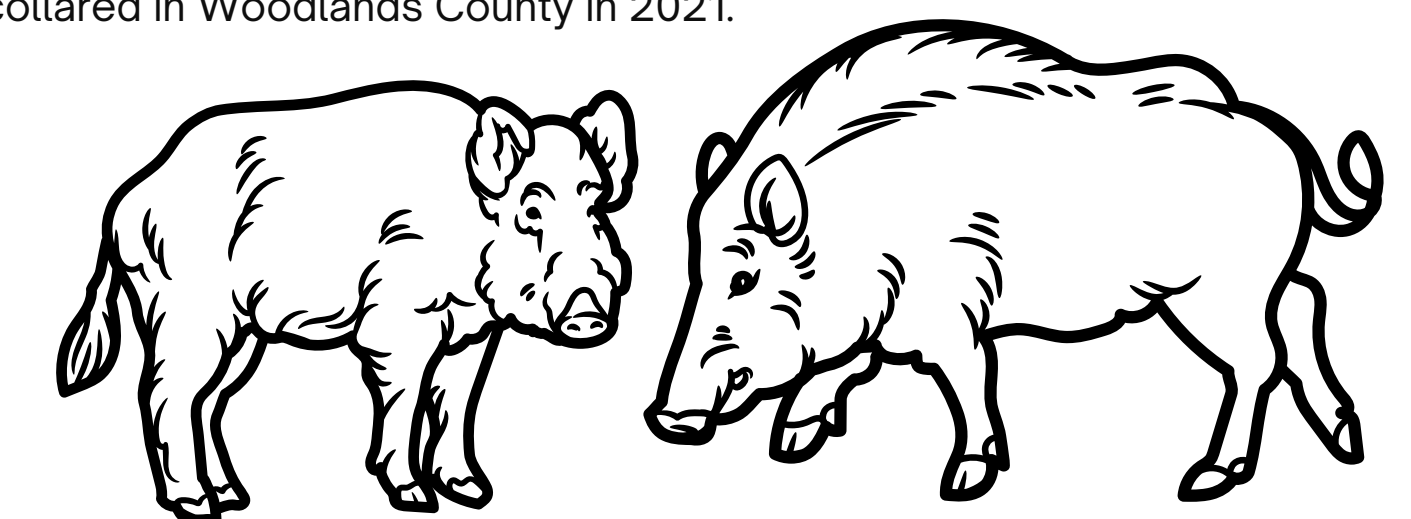 - Home range overlap
  - Direct and indirect contacts

Fig. 2. Home ranges (56km^2 and 16km^2) of two male wild boar GPS collared in Woodlands County in 2021.

EXPECTED OUTCOMES

- Highlight effective points of intervention.

SIGNIFICANCE

- Assess the severity of the wild boar invasion in Alberta.

- Inform development of effective population and disease control strategies.

Devin Fitzpatrick
PhD Student
Faculty of Veterinary Medicine
devin.fitzpatrick1@ucalgary.ca

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