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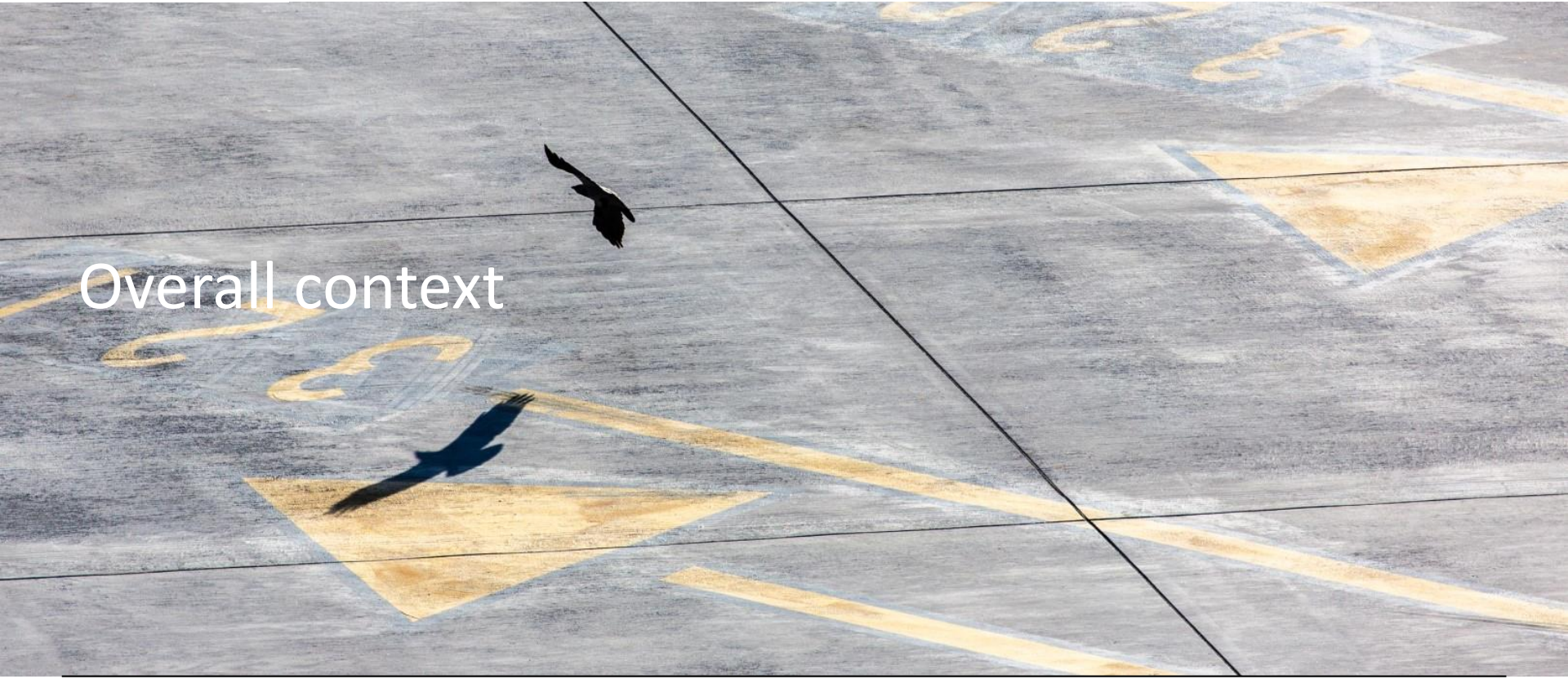
dgac direction générale de l'Aviation civile

Canada geese movement patterns in the vicinity of an aerodrome

Case study

Summary



Overall context

Overall context

Canada Goose – *Branta canadensis*

Introduced species from North America, it has successfully spread to cover most of the UK and other European countries.

Canada geese graze on a variety of grasses and crops (alfalfa, barley, beans, corn, soy-beans, wheat, rye…).

Geese are attracted to the open spaces at aerodromes for grazing and resting.

Measurements

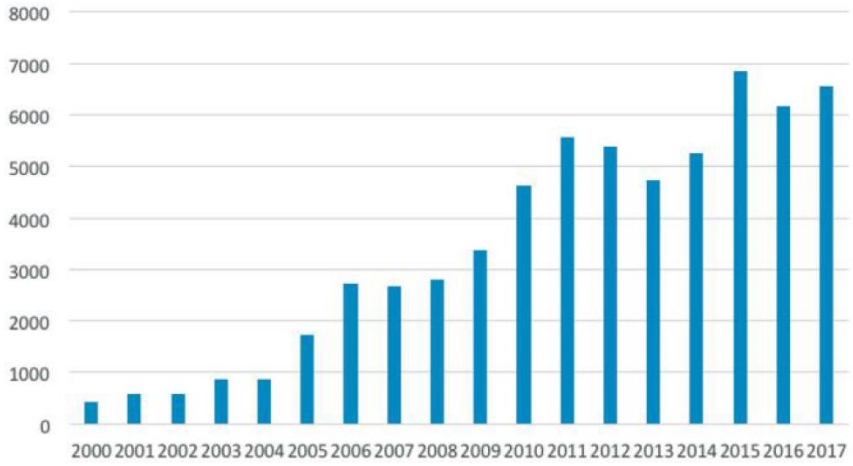
Wingspan: 120 - 180 cm

Weight: 4.3 - 4.5 kg

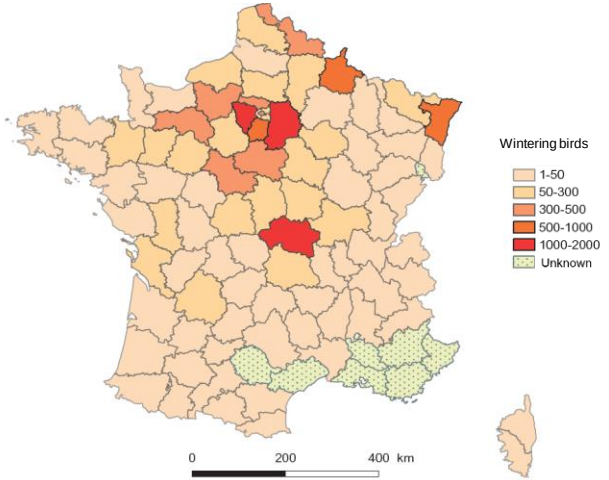
Overall context

Canada Goose – *Branta canadensis*

French populations have increased rapidly in recent years.



Deceuninck *et al.*, 2007 ; Deceuninck *et al.*, 2012 ; Gaudart *et al.*, 2018



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Overall context

Main issue

A groupe of Canada geese was detected in the vicinity of Paris-Le Bourget airport (LFPB) in 2017.

Geese were regularly observed on the aerodrome.

➔ How high is the risk for aircrafts in this high traffic area ?

Study case

Study case

Partners and goals

In 2018 the French Civil Aviation Technical center started a collaboration with

- National Museum of Natural History (CRBPO),
- Regional hunters association (FICIF),
- ADP Group.

Objectives:

- Increase the knowledge of the species' movement patterns.
- Assess risks linked to the presence of Canada geese in the vicinity of Paris-Le Bourget airport.

Study case

Capture sites

In July 2019, **51 Canada geese** captured in two sites (parks) close to Paris-Le Bourget airport (< 5 km).

Study case

Capture and tagging

51 Canada geese equipped with a collar.

6 Canada geese also equipped with a GPS tag.

Study case

GPS tracking and visual survey

July 2019 - June 2021:

- Biweekly visual survey
- GPS tags:
  - 24h/24H survey: 1 location every 10 minutes
  - 2h/day: 1 location every 5 seconds
- Participatory approach (ornithological associations, parks…)

Results

Results

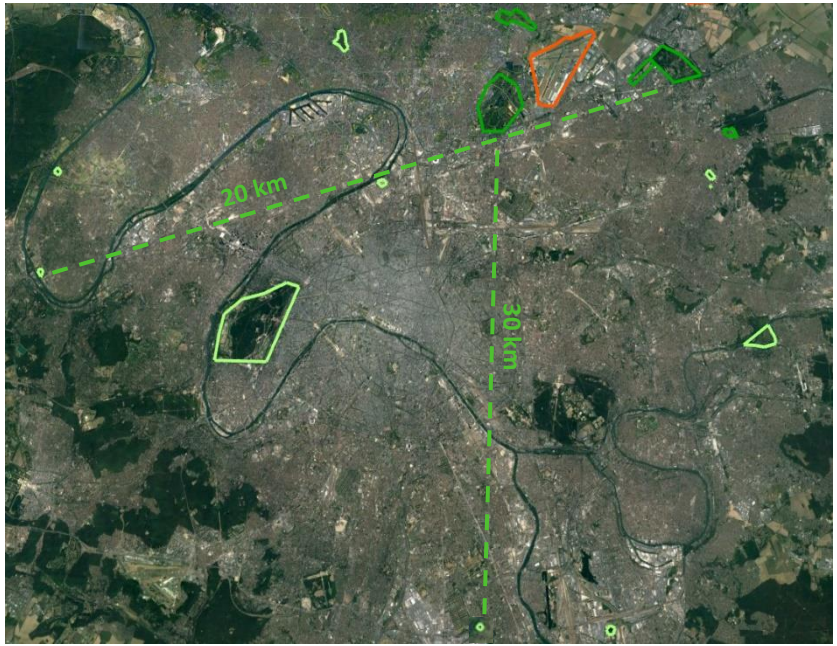
Data analysis

More than 1000 observations.

All individuals observed at least twice after capture.

Dispersal is observed in all directions.

Maximum distance covered from the capture site: 30 km.



Results

Data analysis

Approximately 580,000 GPS locations.

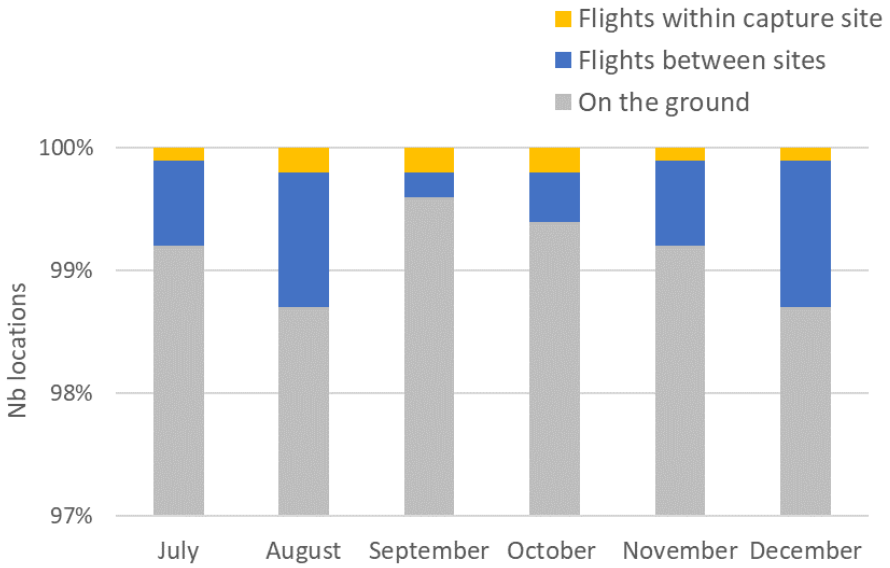
Flying activity < 1% of the time.

Average flight duration: 3 minutes and 55 seconds.

Results

Data analysis

Flights between sites mainly recorded in August and December.



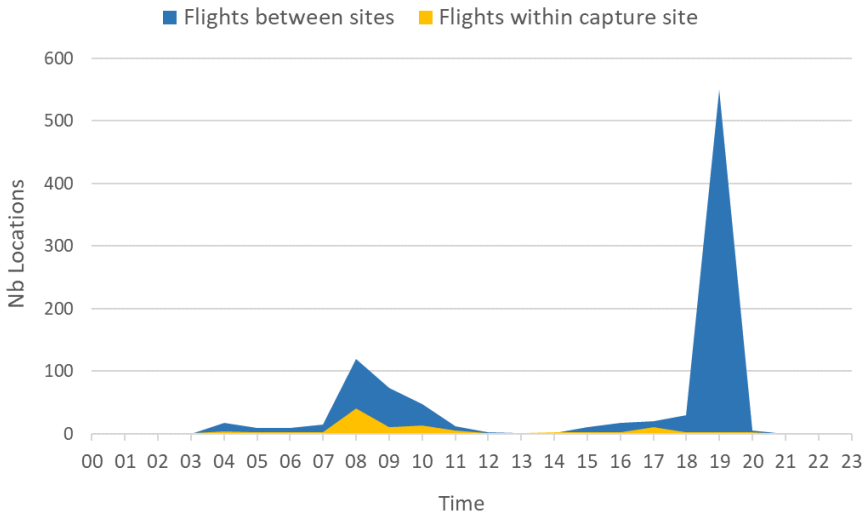
Results

Data analysis

Flight activity peaks in the evening (6 p.m-8 p.m.)
and in the early morning (8 a.m. et 10 a.m.).

Average speed: 50.6 km/h.

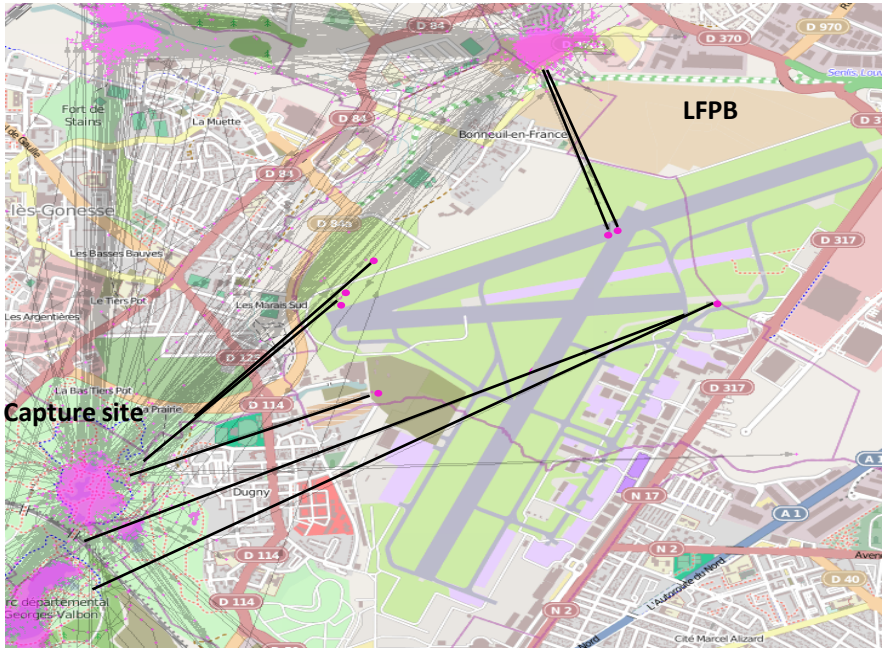
Average flight height: less than 50 m (between 1 m and 30 m).



Results

Data analysis

Less than 1% flights over Paris-Le Bourget airport.

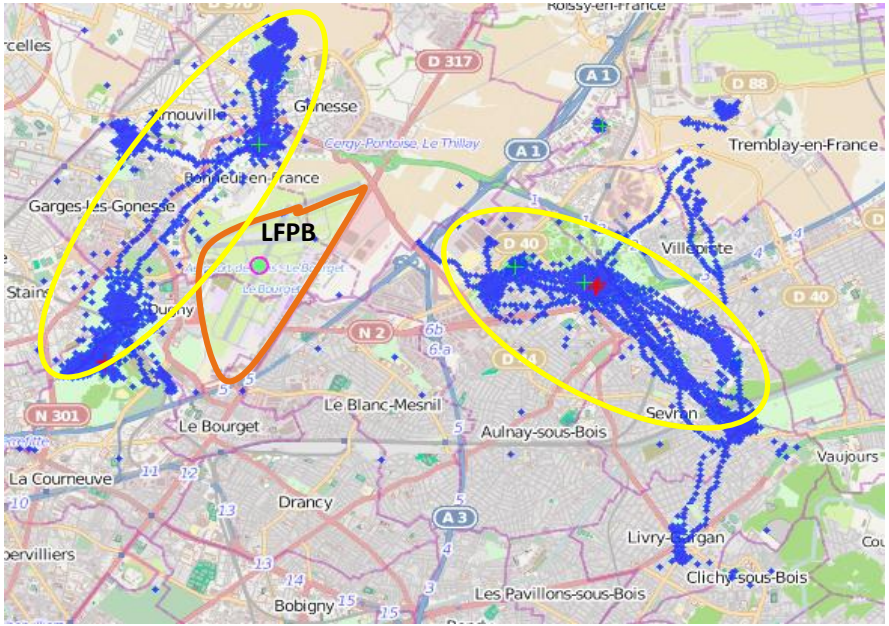


Results

Data analysis

Two activity centers close to Paris-Le Bourget airport.

Flights mainly between parks and golf clubs.



Results

Main conclusions

Canada geese **do not move much outside their feeding/reproductive sites**.

Most of the data collected concern **birds on the ground**.

Low flight height.

Results

Safety recommendations

Grass may be kept at a taller height on the aerodrome to limit geese presence.

Surveillance of attractive sites in the vicinity of the aerodrome (parks, golf courses).

Geese **population control**: sterilization of eggs.

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