

Beyond the Fence: Using Off-Airport Land Use Information to Support Airport Wildlife Management

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Wildlife Management Beyond the Fence

Airports manage on-airport wildlife every day.

But the drivers often begin elsewhere:

- Many hazard drivers originate beyond the airport fence.
- Effective management must consider the whole surrounding landscape, not just habitats inside the perimeter.



Where Damaging Strikes Happen



The approach and departure corridor extends kilometres beyond the fence — entirely outside airport jurisdiction.

>50%

of damaging strikes occur off-airfield.

USDA, 2017

92%

of strikes occur below 3,500 ft AGL.

FAA NWSD, 1990–2020

Less predictable

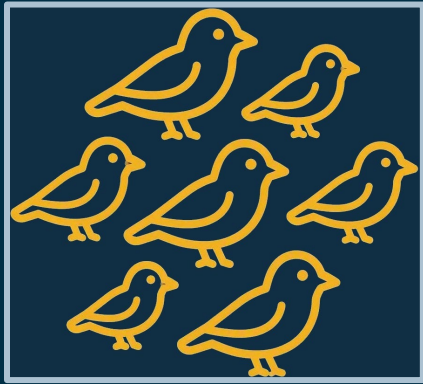
Off-airport strikes are harder to avoid — and often more severe.

How Off-Airport Land Uses Shape Wildlife

Wildlife don't recognize airport boundaries.

Off-airport habitats can influence:

Species abundance



Daily and seasonal movements



Breeding and roosting activity



Current Regulations for Land Use Around Airports

Wildlife Hazard Management at Airports

Waste Disposal Operations

Water Management Facilities

Wetlands

Dredge Spoil Containment Areas

Agricultural Activities

Golf Courses, Landscaping & Other Land-Use Considerations

Synergistic Effects of Surrounding Land Uses



Federal Aviation
Administration

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Synergistic Effects of Surrounding Land Uses

Land use acceptability in the vicinity of an airport – TP 1247

LEVEL OF RISK	LAND USE	LAND-USE ACCEPTABILITY BY ZONE		
		Primary	Secondary	Special
Potentially High	Putrescible waste landfills	No	No	No
	Food waste hog farms	No	No	No
	Fish processing/packing plants	No	No	No
	Horse racetracks	No	No	No
	Wildlife refuges	No	No	No
	Waterfowl feeding stations	No	No	No
Potentially Moderate	Open or partially enclosed waste transfer stations	No	No	Yes
	Cattle paddocks	No	No	Yes
	Poultry factory farms	No	No	Yes
	Sewage lagoons	No	No	Yes
	Marinas/fishing boats/fish cleaning facilities	No	No	Yes
	Golf courses	No	No	Yes
	Municipal parks	No	No	Yes
	Picnic areas	No	No	Yes
Potentially Low	Dry waste landfills	No	Yes	Yes
	Enclosed waste transfer facility	No	Yes	Yes
	Wet/dry recycling facility	No	Yes	Yes
	Marshes, swamps & mudflats	No	Yes	Yes
	Stormwater management ponds	No	Yes	Yes
	Plowing/cultivating/haying	No	Yes	Yes
	Commercial shopping mall/plazas	No	Yes	Yes
	Fast food restaurants	No	Yes	Yes
	Outdoor restaurants	No	Yes	Yes
	School yards	No	Yes	Yes
Potentially Limited	Community & recreation centers	No	Yes	Yes
	Vegetative compost facilities	Yes	Yes	Yes
	Natural habitats	Yes	Yes	Yes
	Inactive agricultural fields	Yes	Yes	Yes
	Inactive hay fields	Yes	Yes	Yes
	Rural ornamental & farm ponds	Yes	Yes	Yes
	Residential areas	Yes	Yes	Yes

What Variables Should We Consider?



01

Type of land use

- Water availability
- Food resources
- Nesting & roosting habitat

02

Site location

- Distance from the airport
- Position relative to runways
- Alignment with flight paths

03

Species attracted

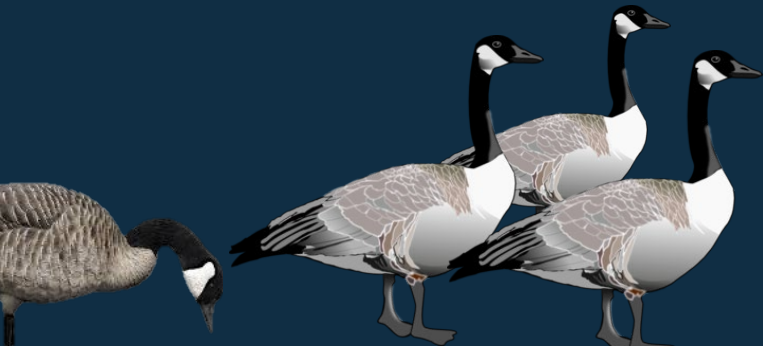
- Which species are present
- Abundance on site
- Frequency of observation

Similar Land Uses, Different Outcomes

Distance changes the kind of hazard a site creates.

Two different sites to assess:

- Adjacent sites — influence local bird movement onto airport property.
- Distant sites — contribute to the presence of birds in the airspace shared with aircrafts



YUL Case Study

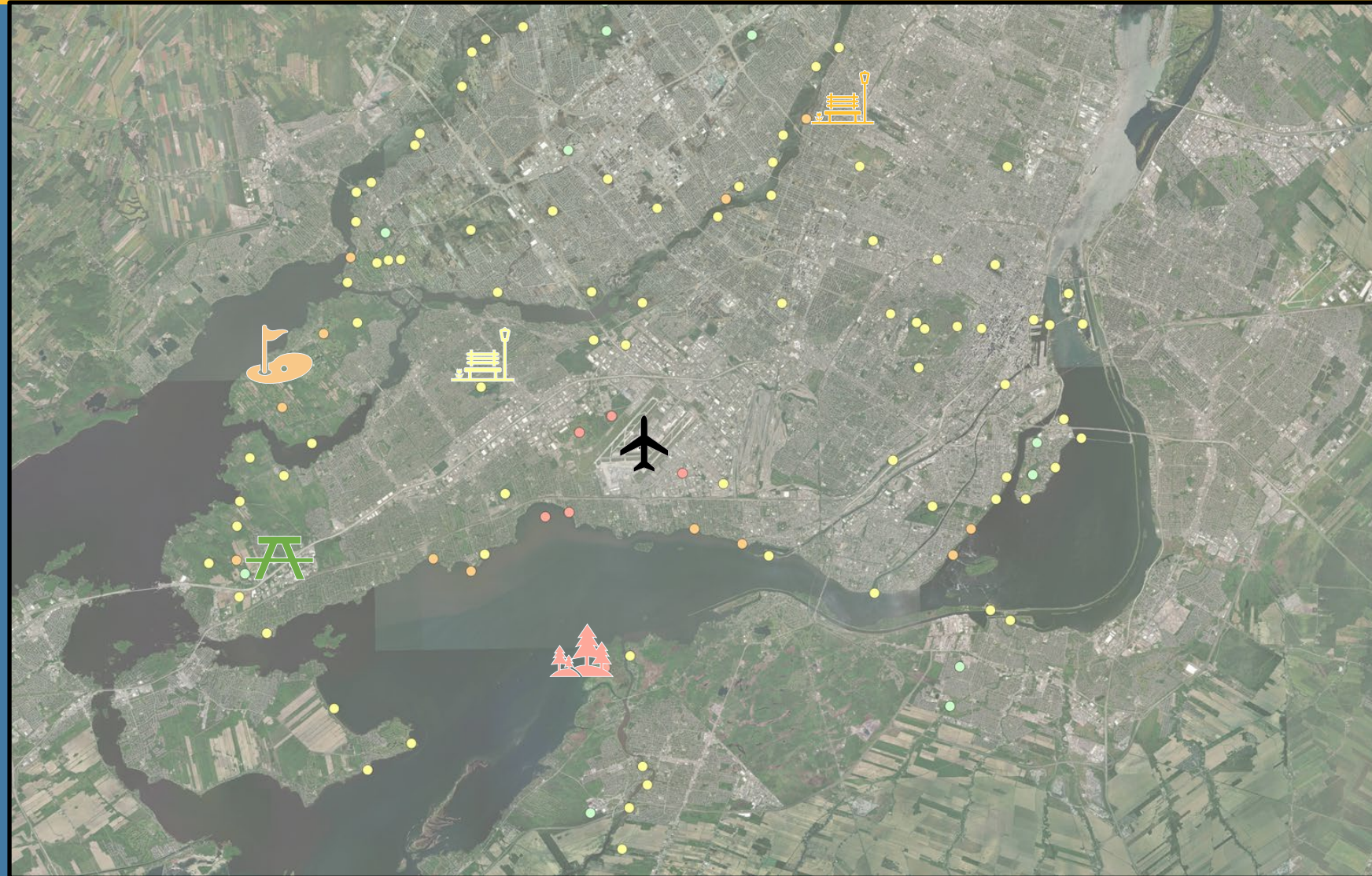
Municipal Parks around YUL

- Similar sites – different species taken into consideration



YUL Case Study

- Can assess the hazard each land use presents to airport operations.
- Depends on data availability.
 - eBird data
 - Airport Bird Surveys



From Assessment to Action

Turn understanding of the landscape into action.

Where the information goes to work:

- Monitor priority sites with focused surveys.
- Build operational awareness of where birds originate.
- Anticipate high-activity periods and track change over time.



Working with Partners Beyond the Fence

Collaborate with municipalities, parks, golf courses, developers and landowners.

Example actions:

- Landscaping and habitat-management guidelines.
- Stormwater-pond design and nesting deterrence.
- Education, outreach and active management where needed.





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