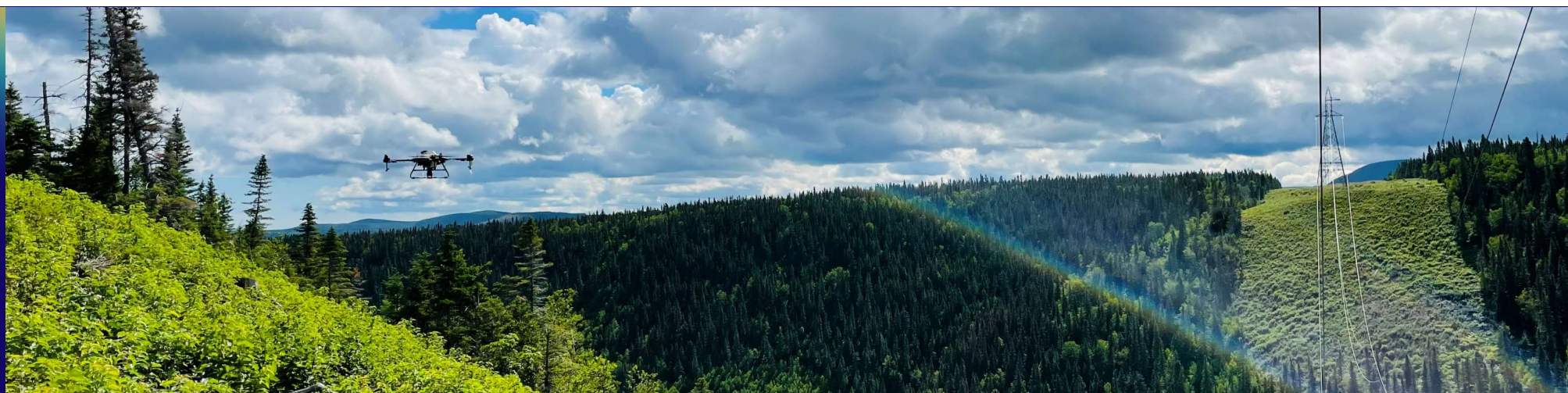




2023-11-09 IVMA OF BC

The Use of Spraying Drones for Vegetation Management:

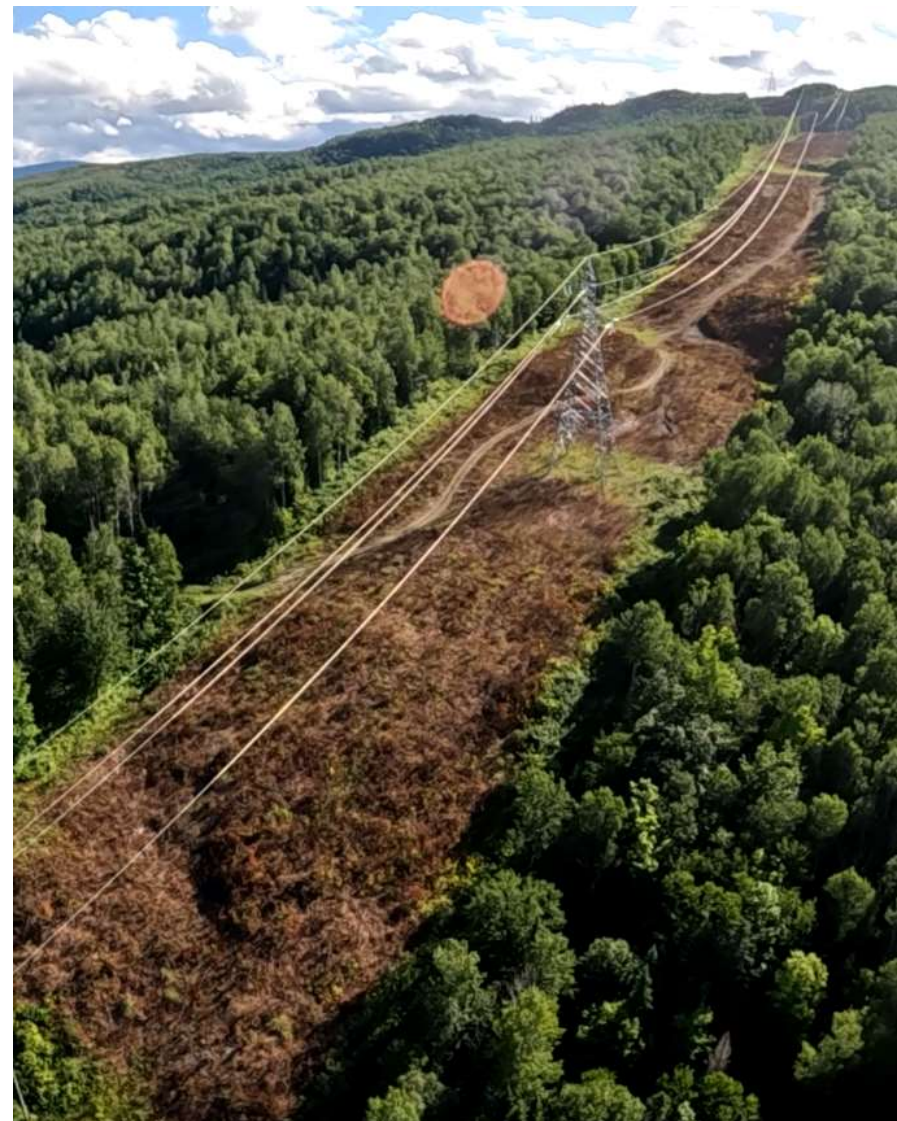
Hydro Quebec's Experience After 4 Years

MATHIEU DEMERS ING.F.
DEMERS.MATHIEU3@HYDROQUEBEC.COM



4 years of utilization +- 800 ha treated

- 2020 = 15 ha
- 2021 = 100 ha
- 2022 = 300 ha
- 2023 = 400 ha





Equipment

Drone DJI T10, T30

RTK

Batteries, chargers, generators,

Tank, pump

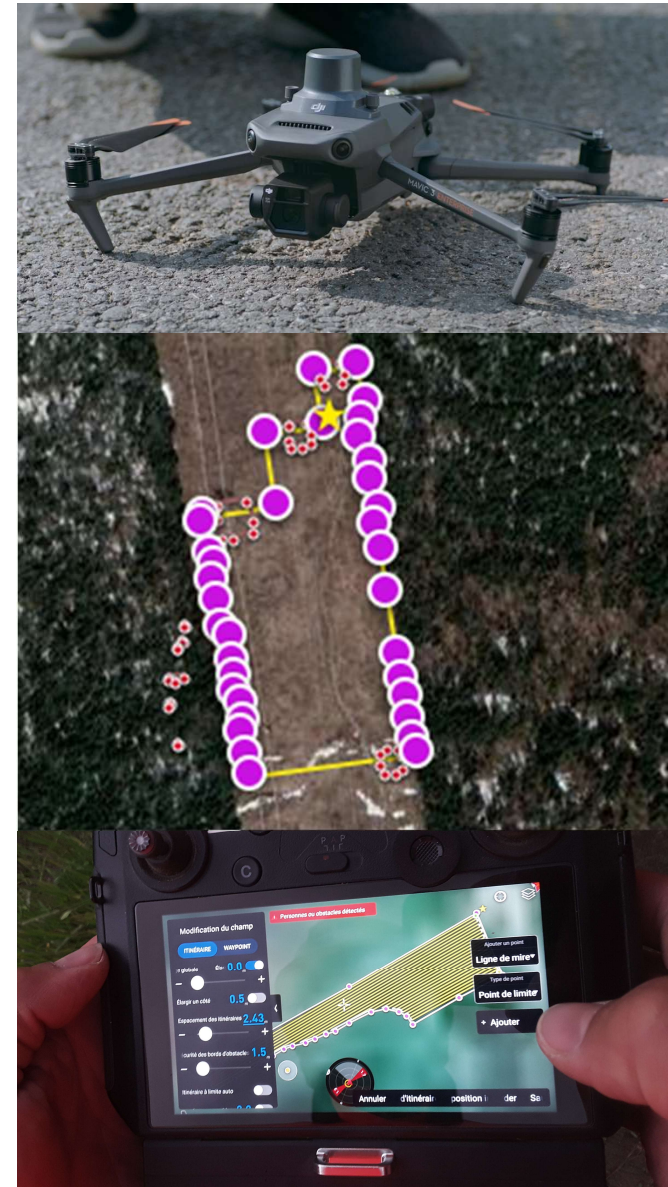
6 x 6

Flight plans



Advantage of a good flight plan:

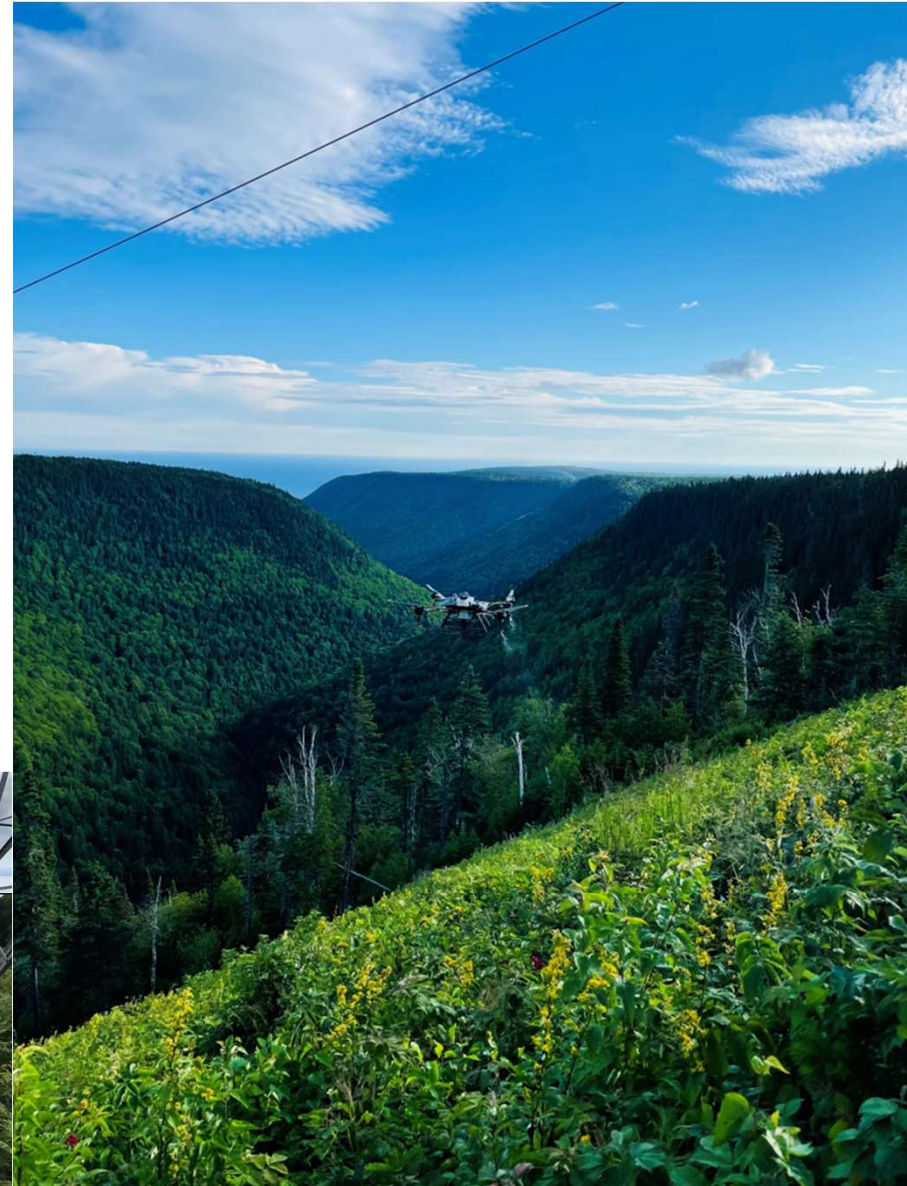
- Ensure a good protection of the sensitive area
- Allow a safe flight
- Ensure work quality



Spraying operation

Automatic flight

- 30 L/ha (5L Garlon XRT)
- 3 m above vegetation
- Spray swath T10: 2,5m, T30: 5-6m
- Battery autonomy : 5-10 minutes
- Pit stop +-1 minutes
- Productivity: 3-10 ha/day, average 5 ha/day



Pros and cons

Pros

Health and safety gain

- No risk of flipped machinery
- No hose application
- Workers outside the treated area

Environnemental gain

- More consistent application
- Reduce the machinery impact on the ground
- <10 cm accuracy

Operational gain

- Ease of use
- Good productivity
- Requires few equipment
- Evolving technology
- Attracting new contractors

Cons

- Untreated area around obstacle
- Application not selective
- Not easy to use in small ROW (proximity of the wire, untreated area, small flight plan)
- Easy to pretend to be a professional herbicide applicator
- Lots of manipulation
- Lots of “not spraying time”
- Need to prepare flight plan
- Authorization issue
- Need to develop the expertise
- Easy to pretend to be a professional herbicide applicator





Thank you !









