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# Drones in Forestry: Practical Applications

Acquiring UAV data is easy...now what?

## GreenLink Forestry Inc.

Resource Inventory Consultants

### Large Format Digital Imagery

- Traditionally flown using fixed wing manned aircraft
  - 5-30 cm resolution
  - 2 Images/cutblock
- High cost effectiveness for all large projects
  - 15 x more coverage/hr than UAV
- Not cost effective for small areas
  - Outsourced data acquisition
  - Long turnaround time (weeks)

### Why Use UAV's?

- Effective use at 1-5 cm resolution
  - 200 Images /cutblock
- Easy to learn how to acquire data
  - In-house data acquisition
- Quick turnaround (Next day data review)
  - If internal processing is done
- Versatile applications
  - Permanent record (Snapshot in time)
- Poor cost effectiveness at large scale currently



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# UAV Applications

## Where does it make sense today?

- Instantaneous video review (possible geo tag)
  - No metrics just optics
- Pre and post harvest assessments
  - Permanent snapshot in time, reviewability
- Sensitive areas mapping
  - Riparian and wetland areas
- Volumetrics
  - Log decks, chip piles, coarse woody debris, etc
- 3D modeling
  - Looks cool
- Orthomosaic stereo pairs for 3D data review
  - Provides higher quality data interpretation
  - Highest accuracy to identify species, eco-site, operability, TPR, ephemeral draws, etc.
  - Although very small stereo model



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# Acquiring the data is easy...now what?

- Processing can be challenging
  - High cost licensing
  - Experience needed
- Stereo pairs
  - Government approval
  - Best data accuracy
- Interpreting Data
  - Experience needed
    - Doesn't mean it can't be learned
    - Focus needed to be accurate



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# Words of Wisdom

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- Start Now
- Fly In-house
- Video Review
  - Simple/Powerful
- Outsource Processing



# THANK YOU!

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GreenLink Forestry Inc.

GreenLinkForestry.com

Contact Derek Fisher, Principal

780-484-8461 x225

dfgrnlnk@telus.net

