Jake’s Drone Wish List
Realistic Reforestation Wish List

- Licensed
- Efficient Aircraft
- Planting
- Seedling Ferrying
- Spraying (Broadcast and Precision)
- Mapping
Navigating the Right Permits/Licenses

**Waiver/Airspace Authorization**

You must select at least one regulation subject to waiver or airspace authorization.

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**How do you plan on using your sUAS?**

- **Just for fun, educational or recreational flying.**
  - NO Remote Pilot Certificate Required
  - Operators must adhere to Public Law 112-95, Section 336 – Special Rule for Model Aircraft. FAA Interpretation of the Special Rule for Model Aircraft
  - Safety Guidelines:
    - Fly at or below 400 feet
    - Keep your UAS within sight
    - Never fly near airports
    - Never fly over groups of people
    - Never fly over stadiums or sports events
    - Never fly near emergency response efforts such as fires
    - Never fly under the influence
    - Be aware of airspace requirements

- **Commercial use, flying for work.**
  - Remote Pilot Certificate is Required.
  - Do you have a pilot’s license issued under Part 61?
    - **YES**
      - You are required to complete the FREE Part 107 sUAS online training course or pass a knowledge test.
      - Submit your training course completion certificate or knowledge test results along with form 8710-13 to the FAA administrator.
      - A temporary remote pilot certificate will be issued and is valid for up to 120 calendar days. A permanent certificate will be mailed to you.
    - **NO**
      - You are required to pass an initial FAA sUAS aeronautical knowledge test.
      - Commercial use operators must adhere to rules and regulations outlined in Title 14 CFR Part 107. You can find these regulations in the ASA 2017 FAR/AIM
Efficient Aircraft

- Where to find it
  - Walmart’s drone aisle will not have what you’re looking for.

- Equipment is custom built
  - Confirm compliance with existing laws regarding desired use.
  - Work with regulatory entities vetting new techniques before you launch.
Combining the Right Equipment

- Hyperspectral image mapping vegetation
- LiDAR used to map terrain
- Accurately mapped protected resources can reduce risk
- Mapping targets and omitting areas not needing treatment reduces cost
Planting Trees with Drones

- Wildfires are not planned, so you probably don’t have the required seedlings at your nurseries.
  - Deploy the seed in your freezer.
- The race against competing vegetation is costly.
  - Replanting or additional herbicide
- Deploy seed as soon as the ground cools in the fall.
  - Pelleted seeds stratify over the winter and germinate in the spring
  - Mapping the sites reduces wasted seeds or hitting unplantable areas
Ferrying Seedlings to Planting Crews

- Reduces costs where dedicated tree packers are needed
  - Crew is planting instead of hiking
  - Reduces seedling stress exposure
- Improves productivity
  - Fly trees with pinpoint accuracy when they are needed
  - Fly food and water so planters don’t have to pack them
Broadcast and Precision Herbicide Applications

- Drone Precision Spray Application
  - Areas unsafe for hand spray
  - Precision application of invasive species and Maple clumps

- Drone Broadcast Application
  - Closer to target area than helicopter
  - Reduced risk to workers than hand spraying
  - Pilot on the ground instead of in the air
Mapping situations before putting yourself at risk