An Unmanned Aircraft System for Natural Resources: A University of Florida Interdisciplinary Program

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\textbf{Aerospace Engineering}

- System designed exclusively for natural resources
- Hand launch from an airboat
- Amphibious landing capable
- Autonomous flight control
- Battery powered
- Commercial off-the-shelf components

\textbf{Geomatics}

- Accurately georeferenced imagery
- Color and infrared spectra capable
- Target identification
- Target classification
- Maximize coverage of ground area
- Commercial off-the-shelf components
- High-resolution images
- Appropriate post-processing methods

\textbf{Natural Resources}

- Keep biologists on the ground
- Ask the right question
- Application-driven missions
- Enhance existing ground and air-based survey methods
- Ease of operation
- Affordable for natural resource budgets

\textbf{Statistics}

- Quantification
- Statistically significant results
- Appropriate error estimation
- Detection probability
- Multiple observer capable
- Comparisons to existing quantification methods