



Drone Exploring: Career Spotlights

Environmental/Conservation — Post

Overview: This session takes a serious look at environmental and conservation drone work as a career: the roles involved (wildlife biologist, conservation drone operator, habitat and environmental monitoring specialist), the certifications and methods used (FAA Part 107, thermal imaging for anti-poaching patrols, survey transect design), and realistic pay ranges. Explorers plan a mock wildlife survey transect flight and discuss the ethics of minimizing disturbance to wildlife.

OBJECTIVES

- Understand the roles involved in environmental and conservation drone work.
- Learn the certifications and methods used in this field: FAA Part 107, thermal imaging, and survey transect design.
- Identify realistic pay ranges across conservation drone and environmental monitoring roles.
- Practice planning a mock wildlife survey transect flight and discuss the ethics of minimizing wildlife disturbance.

SUPPLIES

- Laptop and projector to show sample thermal wildlife-count or habitat-monitoring imagery
- Printed handouts: Career Pathway — Conservation Drone Operator and Survey Transect Planning Worksheet
- Whiteboard or flip chart and markers
- Optional: printed or digital copy of FAA's free Part 107 study guide (faa.gov/uas)

ADVISOR NOTES

- This session is career-focused: use real methods (transect surveys, thermal imaging), real certification requirements, and real pay ranges rather than a hobbyist framing.
- Discuss that many conservation drone roles are with government agencies, NGOs, or research institutions rather than private companies, which can affect pay and job structure.
- Encourage Explorers who are 16 or older and interested to look at the FAA Part 107 study guide as a concrete next step after this session.
- Consider inviting a guest speaker who works in wildlife biology, conservation, or environmental drone monitoring to share their career path. See Optional Extensions.
- If no guest speaker is available, Advisors can run the entire session using this outline, the Career Pathway handout, and the resource links below.

SESSION OUTLINE

- **Welcome and Icebreaker** (10 min)
 - “What species or ecosystem would you most want to help study or protect, and why?”
- **Safety and Ethics Moment: Minimizing Disturbance** (10–15 min)
 - Review the FAA Part 107 Remote Pilot Certificate: minimum age 16, required knowledge test.
 - Discuss minimum flight altitudes and distances used to avoid stressing wildlife, especially during nesting or breeding seasons.
 - Explain how thermal cameras help spot animals (or poachers) at night with minimal disturbance.
- **Mini-Lesson: Careers in Environmental and Conservation Drone Work** (15–20 min)
 - Roles: wildlife biologist, conservation drone operator, habitat/environmental monitoring specialist, anti-poaching patrol support.
 - Typical pay: environmental drone jobs range roughly \$56,000-\$122,000/year; wildlife-specific drone roles vary widely by organization, often in the \$40,000-\$70,000 range for entry to mid-level positions; traditional (non-drone)

anti-poaching field roles pay considerably less, around \$17-\$18/hour.

– **Activity: Plan a Wildlife Survey Transect** (20–25 min)

· Using the Survey Transect Planning Worksheet, small groups plan a mock wildlife survey: flight altitude, transect lines across the habitat, timing (time of day and season), and data to record.

– **Discussion: Balancing Data Needs and Disturbance** (10 min)

· Discuss how conservation teams balance the need for good data against the goal of disturbing wildlife as little as possible.

– **Wrap-Up Discussion** (10 min)

· Groups present their survey transect plans.

· Discuss the concrete steps (certification, environmental science coursework, field experience) needed to pursue this as a career.

REFLECTION SECTION

Advisor Note: Some sample questions are below. They are designed to help the participants apply what they have learned to their own interests. You are welcome to use these questions or develop your own.

Focusing Questions

- What surprised you about how much planning goes into minimizing disturbance during a wildlife survey?
- Which part of this field (fieldwork, data analysis, anti-poaching patrol) sounds most interesting to you?

Analysis Questions

- Why do conservation teams need to plan flight altitude and timing so carefully around wildlife?
- How does thermal imaging support both wildlife counting and anti-poaching efforts?

Generalization Questions

- How is balancing data collection with minimizing disturbance like other situations where you must gather information respectfully?
- What other careers combine science knowledge with technical piloting skills, like this one does?

Challenge: This week, research one conservation organization or government agency that uses drones and identify what roles or volunteer opportunities they offer.

OPTIONAL EXTENSIONS

Guest Speaker: Invite someone who works in wildlife biology, conservation, or environmental drone monitoring to share their career path and take questions, in person or by video call.

Advisor-Led Option: If no guest speaker is available, Advisors can run the full session using this outline, the Career Pathway handout, and the resource links below. No outside expert is required.

Resource Links: FAA Part 107 overview ([faa.gov/uas/commercial_operators](https://www.faa.gov/uas/commercial_operators)); conservation organization websites for drone program information; university environmental science program pages.

Extension Project: Explorers who are 16 or older can begin studying for the actual Part 107 knowledge test using the FAA's free study guide.

Handout: Career Pathway — Conservation Drone Operator

Environmental/Conservation — Post

A typical path into this field looks like this:

1. Interest and Hobby Flying

Learn basic drone operation and become comfortable with mapping and thermal camera basics.

2. FAA Part 107 Certification (Age 16+)

Pass the FAA knowledge test to legally fly for pay or for an organization's program.

3. Environmental Science Coursework

A degree or coursework in environmental science, wildlife biology, or ecology strengthens this pathway.

4. Field Experience

Volunteer or internship experience with a conservation organization, park service, or research institution.

5. Specialized Roles

Environmental drone roles range roughly \$56,000-\$122,000/year; wildlife-specific roles often range \$40,000-\$70,000/year depending on the organization.

Handout: Survey Transect Planning Worksheet

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Use this worksheet to plan your mock wildlife survey transect flight.

Planning Item	Your Plan	Notes and Risks
Flight altitude		
Transect line spacing		
Time of day and season		
Data to record		
Steps to minimize disturbance		