



### **Company Information**

<b>Company Name</b>	Wildlife Innovations LLC	<b>Date Submitted</b>	04/24/2025
<b>Project Title</b>	Design of a Wildlife Feeder System (WILDLIFE_FEED)	<b>Planned Starting Semester</b>	Fall 2025

### **Senior Design Project Description**

#### **Personnel**

Typical teams will have 4-6 students, with engineering disciplines assigned based on the anticipated Scope of the Project.

Please provide your estimate of staffing in the below table. The Senior Design Committee will adjust as appropriate based on scope and discipline skills.

<b>Discipline</b>	<b>Number</b>	<b>Discipline</b>	<b>Number</b>
Mechanical	4	Electrical	1
Computer	1-2	Systems	

#### **Company and Project Overview:**

Wildlife Innovations is a start-up company that is focused on developing improved products for outdoor recreational activities. This project has an objective to design an improved product for wildlife feeders.

#### **Project Requirements:**

Current wildlife (corn) feeders that are readily available in the market are extremely loud when operating. Many operate off timers or phone apps and operate via spindle and battery motor that "whips" out the corn like a fertilizer whip spread onto the ground while being suspended off the ground. The objective of this project is to create a new type of feeding apparatus that traverses through the air via a braided cable that is suspended between two trees or posts with a minimum "maximum" span of 50' but preferably 75' or more. As the feeder moves along the cable, the feed would be distributed to the ground below. The desired goal and value proposition is for the feeder to be extremely quiet and unobtrusive and therefore allow wildlife to remain calm and act as they would in their normal environment. This project will create a Phase 1 – Proof of Concept for the design. This proof of concept will be used to refine design ideas and develop a plan for the product roadmap.



### **Expected Deliverables/Results:**

- Feeding mechanism that is suspended via a braided cable between two trees or posts
- Cable distance (span) to be 50' minimum with a minimum preferred span between 75' - 100'
- Cable to be able to be tightened via a mechanical device.
- Ideal clearance from bottom of feeding mechanism is 10' minimum off the ground
- Feeding distribution apparatus to be powered by an electric battery motor that is bidirectional
- Motor would require shut off after full travel of the cable
- As sound is to be minimized, feeder travel speed can be very slow on the order of a few to several minutes to traverse the cable.
- Apparatus to be quiet in operation (40-50 dB or less @ 3' if possible)
- Solar panel charging is preferred as an option
- Programmable timer to operate with a minimum of 5 programmable times per day
- Phone application ability desired if possible within project timing
- The ability to hold a minimum of 100 lbs of corn or soybean is the end state desired. This could be in the feeder or at a dock station that disburses 3 lbs. per travel cycle. At mid-term of semester 1, the team will agree with supporters what is realistic for the proof of concept, given the project timing.
- Entire device to be used in the elements (outdoor) and will need to be weatherproof/resistant
- Re-supply of corn will be needed when empty, consider design ideas of how this can be done, form the ground if possible

### **Disposition of Deliverables at the End of the Project:**

Students are graded based on their display and presentation of their team's work product. It is mandatory that they exhibit at the Expo, so if the work product was tested at the supporter's location, it must be returned to campus for the Expo. It is also a mandatory part of this Program that the Industry supporter attend the 2 expos to grade their team's performance. After the expo, the team and supporter should arrange the handover of the work product to the industry supporter. This handover must be concluded within 7 days of the Expo.

### **List here any specific skills, requirements, specific courses, knowledge needed or suggested (If none please state none):**

- Machine design and controls
- Students picking this project acknowledge that any IP created will be owned by Wildlife Innovations, LLC.