

A.L.I.C.E. Animal Lair Inspecting Cartographic Equipment

University of Idaho
College of Engineering

College of Natural Resources

Problem Statement

In recent attempts, biologists have had issues with being able to physically look and measure further than 3 feet deep into a pygmy rabbit burrow using hand operated probes with limited reach. All other current methods have produced the same results. The need is for alternatives to design a better method/device to explore the burrow systems.

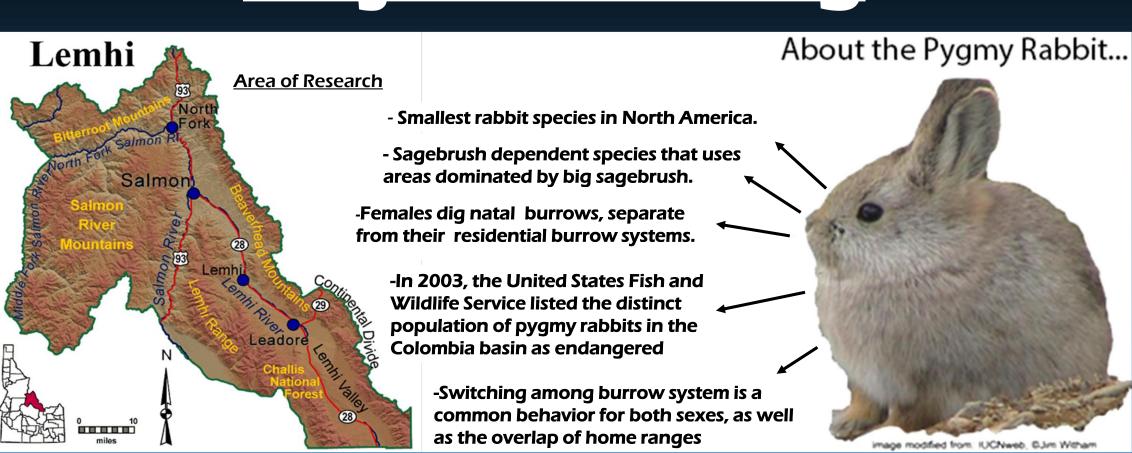
Project Goals

- Ability to Explore Entire Burrows
- Visual Documentation of Burrows
- Volumetric Measurements
- Mapping Burrow Systems

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Project Learning



Average

Burrow Hole Diameter: 4.3-inches
Burrow Depth: 3-feet
Burrow Length: 30-feet
No. of Entrances for each Burrow System:

3 - 7

Constraints

- Limited size due to burrow dimensions
- 4.3-inch average max burrow entrance diameter
- Burrow structure has possibilities of having sharp corners calling for a shorter design in addition to a small diameter
- Wireless communications and data retrieval are impractical due to soil conditions

Solution

- User-operated/driven
- Designed to fit in less than a 3-inch diameter hole
- Onboard power supply
- Powered by twin motors on skid steer design
- Multiple range finder sensors
- Onboard computer
- Front and rear camera system
- Onboard Digital Video Recorder
- Coaxial "tether" line for live composite video feed and signal communications

