

STEM Course Enhancement: Use of thermal scope to tranquilize deer for student involvement

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Involved STEM Courses:

WMGT 4369: Wildlife Management Techniques

WMGT 3381: Game Animal Production

WMGT 4302: Cervid Management

WMGT 3301: Game Ranch Management

WMGT 4301: Cervid Breeding and Production

Budget:

\$1,999 for thermal image scope

Project Narrative:

Executive Summary: Working hands on with white-tailed, fallow, and red deer is a key component of the Wildlife Management minor within the major of Animal Science. Through the generosity and help from SHSU's partners at 3S Ranches, this interaction with deer species is commonly achieved in our courses. Students are immersed in the day to day managing of a high fence ranch and taught how to interact with these animals in a safe way. Due to the wild nature of these animals, one of the most common methods utilized various courses is tranquilizing bucks/stags who possess antlers that will not work safely in the normal doe/hind facilities. This is a common practice in the deer breeding industry, but students are always surprised to see this technique in practice. Deer are tranquilized to conduct a variety of tasks including scoring, vaccinations, wellness checks, or moving to another home pasture. All of these are tasks that we readily utilize as learning opportunities for students. Due to the susceptibility of these animals to heat stress and considering the nocturnal nature of select species, most of these events occur after dark. As such, flashlights are utilized to see the animals and allow proper aiming and safe takedown. Thermal imaging has been utilized widespread across the industry, and being able to utilize this technology here, would greatly improve the safety of those involved with tranquilizing and the reduce stress of the animals. The purpose of this proposal is to state the case for procuring an ATN Thor 4 384 1.25-5X thermal imagine scope from ATN Corporation.

Rationale:

One of the skills necessary in managing a high fence, production-based operation is the safe downing of animals. While this is done primarily through trained professionals such as the operations or pen manager, students at SHSU are given the opportunity to learn this skill through a variety of our courses offered. Students are trained to use the tranquilizer in a safe manner, load proper medicines under veterinary supervision, aim, and fire all on practice materials and targets before being exposed to downing a live animal. These students are trained by the very professionals that conduct this practice every day. However, downing animals at night can be intimidating to students who are not accustomed to flashlight aiming.

To combat this and to make the students more confident and therefore improving their performance, thermal imaging scopes would prove to be invaluable in our courses.

The downing of deer happens every day in industry. When the opportunity arises in one of our Wildlife Management courses such as WMGT 3301, 3381, 4301, 4302, and 4369, students are given the opportunity to utilize the skills they have learned through practice and our teaching methods. However, students are less likely to volunteer for this task at night due a lack of confidence in their skill. Even though students given the opportunity to learn this task through practice, supervision, and final approval and passing, nighttime offers new challenges to them. Using a thermal imaging scope on the tranquilizer will alleviate this doubt in students. By conducting this technique not only in practice situations but also on living animals, students will be more likely to retain this skill and utilize it in future careers.

Materials and Methods:

Students in WMGT 3301 are trained off campus in proper handling of the tranquilizer, taught how to aim, and safely fire withing the first two weeks of class. These students are also given time in which they are to practice their technique under supervision of the instructor and trained professional. Students are observed individually and not given a passing score and greenlight to take down an animal unless they reach 90% proficiency using a standard target scoring system. Student then must wait until the need of taking down an animal arises and then are given the opportunity to take and animal. While 3301 is a requirement of all Wildlife Management minors, students often take other courses beforehand. One course is WMGT 4369 (Wildlife Management Techniques), which focuses on all of the different techniques used in managing deer. Students in this course are given an identical training, but students who have proven proficient in 3301 must repass the examination in order to keep their privileges. Students who have not already downed an animal in previous courses are given priority when opportunities arise. While this structured lesson does not occur directly in other courses such as WMGT 3381, 4301, and 4302, students are still exposed to this technique and given the opportunity to down animals. These opportunities primarily occur after dark.

Budget and Justification:

One ATN Thor 4 384 1.25-5X thermal image scope from ATN Corporation: \$1,999 (before educational/state discount)

To be used in teaching students how to use thermal imaging and tranquilizing live animals after dark. Primary use in WMGT 3301 and 4369; Secondary use in WMGT 3381, 4301, and 4302; This tool would service 90+ students per semester.