Permit 2015-004:
Greg Smith

Department or Organization:
Kent State University

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Are you requesting renewal of a previously approved permit applicaton?
No

Type of activities at The University of Akron Field Station and Bath Nature Preserve
Research

Title of project or class name and course number:
Natural Selection on Growth and Locomotor Development in Eastern Cottontail Rabbits (Sylvilagus floridanus)

Date/Dates requested:
July - December 2015

Number of people in group:
2-3

I am requesting permission to use a Research Area.
Yes

I am requesting permission to use a Sensitive Area.
Yes

I am requesting permission to use areas outside of the designated Research or Sensitive Areas.
Yes

I would like to use the Martin Center for Field Studies and Environmental Education for this prop...
Yes

Will the activity involve destructive sampling/collecting?
Yes

Which Research Areas?
18 Acres
Beefy's Woods
Garden Pond
Grandview Alley

Round Top
South Woods

Which Sensitive Areas?
Garden Bowl
North Fork

Which areas outside of the designated Research or Sensitive Areas?
Panzner Wetlands

Please indicate any preparation or set-up you will need in the Martin Center for Field Studies an...
N/A

Please explain how the material will be collected (including equipment), and an estimate of how m...
Some rabbits collected on site will receive radiocollars and be returned to the area of capture. A subsample of rabbits will be humanely euthanized and submitted to NEOMED for deep tissue muscle dissection. All capture, handling, and euthanization procedures have been approved by IACUC Protocol #13-026 through NEOMED and ODNR, Division of Wildlife Permit #16-128.

Provide a brief description of (1) your proposed activities, (2) goals, and (3) impacts of your u...
The juvenile stage of life can be particularly perilous. Immature animals must accomplish the same basic survival functions as adults despite smaller body size and other growth-related limits on performance. Because, by definition, juveniles have yet to reproduce, we should expect selection for mechanisms that could potentially offset ontogenetic limits on performance, allowing individuals to reach reproductive adulthood. However, no study to date has documented the associations between morphology, performance, and survivorship that are required to establish the adaptive nature of a given morphological or behavioral trait; especially in the field, under real-world conditions. Understanding these relationships between lower-level physiological, morphological, and behavioral traits to survivorship is crucial to understanding natural selection. This research will remedy this gap by combining measures of musculoskeletal growth, locomotor performance, and survivorship to explicitly test broad-scale hypotheses of natural selection on the growth and development of the mammalian locomotor system. Our research will focus on free-ranging eastern cottontail rabbits (Sylvilagus floridanus). Eastern cottontails are independent of their mothers by three weeks of age and experience high predation pressure during the first year of life, making them an ideal model with which to address the questions posed here. The primary goal of this research is to combine functionally-informed measures of musculoskeletal growth, in vivo assessments of sprinting and acceleration capacity, and telemetry-based estimates of survivorship to explicitly test how natural selection operates on the growth and locomotor development in eastern cottontail rabbits.

By checking this box, I agree to the above terms and state that all of the above information is c...
I agree