# Study wildlife nutrition and sagebrush habitats

## Overview:

The Idaho EPSCoR GEM3 Vertically Integrated Projects (VIP) Program would like to invite you to consider enrolling in this exciting new course section. This is a unique opportunity to learn research skills that count toward your degree and will prepare you for future careers.
You can earn credit for participating in this work, but this is not a typical course! Through the VIP program, sophomore and higher students can earn 1 credit per semester working on real-world, authentic research led by faculty. Students who participate can expect mentoring, group and individual project work, and the opportunity for both lab and field experience.

## What is the goal of this project?

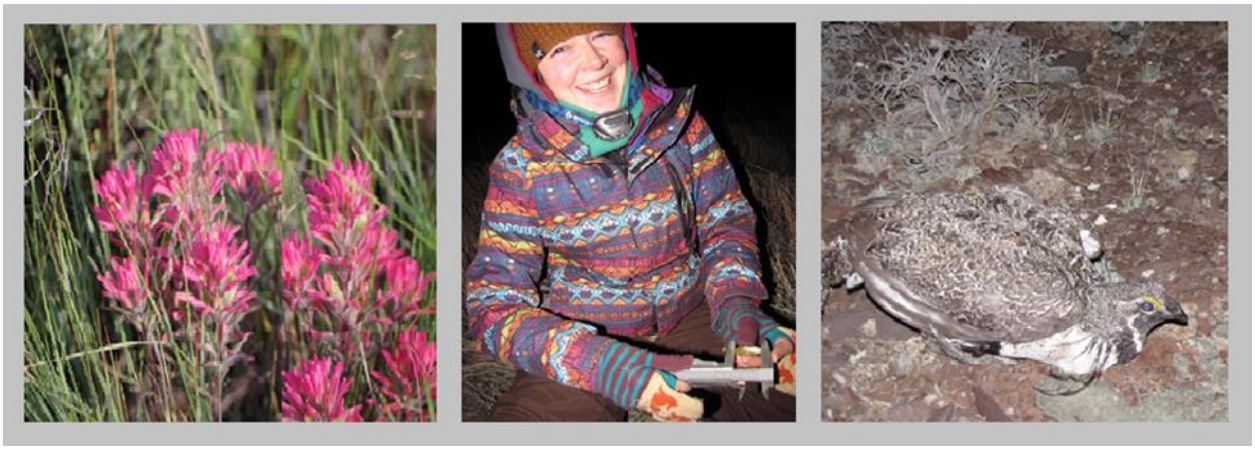
The goal is to provide land managers with the necessary information to protect and conserve greater sage-grouse habitats by giving students hands-on training in the approaches that we are using to study this system. Students in the VIP course will have the opportunity to continue working as part of our research team in future semesters, and throughout the course of this project, students will learn and apply skills in ecology, evolutionary biology, molecular laboratory techniques, bioinformatics, and field biology.

An understanding of wildlife nutrition and diet is essential to effectively manage wildlife populations, their habitat, and to garner knowledge regarding their survival and productivity. Sage-grouse hatch young that have shifts in diet during their development making them a good candidate to study nutrition and diet in the sagebrush habitat. The exact timing of these dietary shifts is largely unknown, and the precise species of plants and insects that make up their diet are not well documented. Our team will use novel molecular tools to investigate the dietary makeup of greater sage-grouse during development and across seasons. This research is conducted both in the lab and in remote areas of southern Idaho, with the goal to describe greater sage-grouse diet, and provide land managers with the necessary information to protect and conserve greater these habitats.


- This project is supported by NSF award number OIA-1757324 from the NSF Idaho EPSCoR Program and by the National Science Foundation.


- See course announcement here

# Experience Gained



Hands-on, project based training will include:

- The application of DNA metabarcoding techniques to ecological studies (Fall/Spring VIP)
  - -DNA extraction, PCR, and DNA sequencing
  - -bioinformatics
- Field work could include trapping, telemetry, and non-invasive sampling of seeds, vegetation and feces (Spring VIP only)
- Scientific communication for both written and oral communication (Fall/Spring VIP)

# Majors and Interests Needed

- The VIP program is specifically looking for, and Biology, Conservation Biology, Ecology, Environmental Science, Rangeland, and Wildlife Majors to apply
- Applicable to majors in CNR and Biology. BIOL-114 or BIOL-115 prerequisites

# VIP Coach Information

Dr. David Tank is an Assistant Professor in the College of Natural Resources at University of Idaho and Director of Stillinger Herbarium. Dr. Tank is a plant systematist who is broadly interested in the investigation of the patterns and processes that shape plant biodiversity. His research is focused on the use of molecular methods to reconstruct phylogenetic relationships in plants and the application of phylogenetic methods to understand plant evolution.

J. Tyrell Styhl is a graduate student working under Dr. David Tank. He received his Bachelor of Science in ecology and conservation biology and his current graduate research focus is on studying changes in the diet of southern Idaho sage grouse. He was also recently selected as a National Science Foundation Graduate Research Fellowship recipient.

# Course Information

This particular VIP course will be listed as BIOL 401 - Undergraduate Research as a special section (3) this coming Fall Semester (Fall, 2019) and again, for another credit in Spring, 2020. Previous experience is not required, however, BIOL 114 or BIOL 115 is a prerequisite.

# Interested in joining this team?

If you are interested in registering for this course contact Dr. David Tank (dtank@uidaho.edu), or Tyrell Styhl (tys@uidaho.edu). For more information about the Idaho EPSCoR GEM3 program visit: https://www.idahoepscor.org/gem3