

title	Habitat Use, Thermal Biology, and Reproduction in Northern Pacific Rattlesnakes
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email	etaylor@calpoly.edu
additional	
department	Biological Sciences
proj_desc	<p>The Northern Pacific Rattlesnake is a common but secretive local snake species with dramatic potential for use in field research and training of students in wild life biology and methodology. At my local field site, we monitor the behavior, habitat use, and thermal biology of adult rattlesnakes using radiotelemetry, in which radiotransmitters are surgically implanted into the body cavities of the snakes, allowing student researchers to locate free-ranging, naturally behaving snakes at any time. This technology is widely used in wildlife biology and environmental consulting, making the skill a must-learn for students hoping to enter these fields. In addition, it allows us to learn about and study the habits of this secretive and ecologically important animal, which otherwise would remain a mystery.</p> <p>Students participating in this large-scale, long-term project are free to choose their own mini-projects. Students will work closely with me in developing their individual projects and carrying them out. It is my hope that students will join the lab for a longer time period to see their projects to completion. Students will not handle rattlesnakes at any time during these projects for obvious safety reasons; any manipulations of snakes will be carried out by myself and other trained personnel. The following are examples of projects that students could immediately initiate in 2008:</p> <ul style="list-style-type: none"> - habitat use (monitor snakes to observe how choice of burrow or above-ground microhabitat is affected by season, drought conditions, reproductive state, temperature, etc.) - home range (use GIS programs to quantify the area occupied by animals in a given season or year; compare this value in males and females, from year to year, in wet and drought years, etc.) - thermal biology (monitor internal body temperature of snakes using surgically implanted temperature data loggers) - reproduction (describe the seasonal timing of male-female courtship behaviors, measure seasonal levels of reproductive hormones, quantify litter size of females, etc.) <p>At Cal Poly we have very few faculty studying vertebrate animals in the wild, so it is rather difficult for undergraduates to obtain research experience that will be highly applicable to future careers in wildlife biology, natural resources, and ecology. This research program on Northern Pacific Rattlesnakes provides a good opportunity for students to gain such experience while simultaneously answering original scientific questions about a poorly understood species.</p>
inter_desc	<p>This project is designed to train students interested in diverse fields within science. For example, this project will be of interest to students interested in learning how to monitor animals in the wild, as well as to students interested in discrete scientific questions such as the effect of body temperature on activity and burrow use. It will appeal to students studying biology, forestry and natural resources, animal science, and perhaps other majors.</p> <p>I currently have one Honors student doing research with me (Benjamin Kwittken) and am seeking an additional student for this project.</p>
links	The following is a link to some of the research projects ongoing in my laboratory: http://www.calpoly.edu/~bio/PERL/research.html
students	2
majors	BIO, ASCI, FNR
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