State the objectives, specific aims and the significance of the project, and describe the methodology used to achieve these goals. Avoid summaries of past accomplishments. The abstract is meant to serve as a succinct and accurate description of the work when separated from other portions of the proposal. Do not exceed the space allowed; 10 pt. font and single-spacing is allowed for this section only. Do not use abbreviations in the title.

P.I. NAME and AFFILIATION: Hannahrose M. Nevins, Marine Wildlife Veterinary Care & Research Center

FUNDING AMOUNT REQUESTED: $ 38,459

PROJECT TITLE: Validation of thermography to assess body temperature and waterproofing of captive and rehabilitated seabirds

Abstract:

We propose to validate the use of a novel technology, thermal infrared (IR) imagery to assess body temperature and waterproofing of seabirds in captive and rehabilitation settings. Our hypothesis is that thermal imagery (thermography) provided by an IR camera will provide a repeatable, reliable estimate of core body temperature and quantitative assessment of thermal homeostasis in captive and rehabilitated seabirds. First we will establish the best proxy for estimating core body temperature with this new technology. Second, we will measure the natural variability in body temperature and thermal conductance as a result of differences in physiological state (e.g. normal vs. molting, oiled or other compromised plumage), activity (e.g. active or non-active) and environment (air vs. water). We will measure the differences among these parameters in the controlled environments of captive and rehabilitation settings to quantify how much change in the thermal image is due to actual loss of insulation properties (i.e., waterproofing) rather than to activity or environmental factors.