Oiled Wildlife Care Network
Wildlife Health Center

PROJECT ABSTRACT

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: Kirk C. Klasing

FUNDING AMOUNT REQUESTED: $65,000

PROJECT TITLE: Investigation into the Dietary Needs of Faunivorous Seabirds undergoing Rehabilitative Care

Abstract: The Oiled Wildlife Care Network may be presented with hundreds to thousands of live-captured wild birds in need of treatment during a large spill. Nutritional support for these animals during the rehabilitation process currently proceeds despite little published information on the needs of affected species. The clinically debilitated state in which oiled birds are typically presented complicates captive management. Not only does captivity itself alter a wild animal's nutritional needs, but the physiological states of extreme stress and body catabolism may also change requirements for dietary energy or specific nutrients, as is known to be the case in other species. Large proportions of oiled birds are received for care markedly emaciated, anemic, and/or hypoproteinemic. To investigate the energy requirements of debilitated faunivorous species commonly affected by CA oil spills, live anemic birds received for routine rehabilitation will have energetic investigated through indirect calorimetry. Energy expenditures over time in captivity will be evaluated by injection of birds with stable isotopes of deuterium/O-18 and repeat isotopic evaluation of distilled blood plasma. These two methods will yield information on energetic expenditures during rehabilitation, what substrate the bird is currently metabolizing, and calculation of resting metabolic rate. To identify which nutrients emaciated birds have catabolized and thus which require replacement, carcasses of emaciated birds that die in care will be compared to carcasses of healthy body condition individuals that die due to trauma or other conditions precluding release, by complete carcass nutritional analysis. To evaluate critical care diets and feeding regimens in regards to digestibility and ability to promote achievement of a positive energy and nitrogen balance, gavage input and fecal output will be compared nutritionally and energetically through bomb calorimetry and use of a chromium oxide dietary marker. Clinical improvement through the rehabilitation process will be monitored by daily body weight measurement and reticulocyte response to anemia. The primary hypothesis of this study is that survival to release of oil spill affected faunivorous birds may be improved through administration of evidence-based appropriate and specific nutritional support.