

Initial development of a canid disease monitoring and prevention program plan for the conservation of endangered red wolves (*Canis rufus*).

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In collaboration with PhD candidate Kristin Brzeski at Louisiana State University (LSU) School of Renewable Resources, a review of our current understanding on disease occurrence, trends, and associated risks in wild canids in the southeastern U.S. is in progress.

This joint effort complements our ConCom funded work by merging the tools and expertise available through LSU, with the veterinary science and field biology components of the Red Wolf Recovery Program to develop disease monitoring and prevention approaches for the endangered red wolf. In 2013, K. Brzeski conducted a pilot study to assess helminth infections, parvovirus occurrence, heartworm prevalence and ectoparasite loads in wild red wolves and other *Canis* in northeastern North Carolina (NENC). While this project examines disease and pathogen susceptibility from an immunogenetic perspective, it provides the necessary baseline information to expand on disease occurrence and monitoring, and to evaluate current preventative methods (e.g. vaccination of parvovirus, canine distemper, and tick-borne illnesses).

K. Brzeski will begin a second year of sampling in January 2014 where she will further investigate pathogen community structure and diversity. Her preliminary analyses suggest red wolves have high parasite loads, but moderate parasite diversity compared to other wolf populations. The collection of additional data attained from other wild *Canis* (e.g., coyotes (*Canis latrans*) and hybrids) in the Red Wolf Recovery Area (RWRA) will help determine if red wolves are particularly susceptible to pathogens, or if all wild canids in the recovery area carry high parasite loads. With additional parasite samples from hybrids and coyotes, we can better evaluate infection rates in sympatric RWRA canids and potentially identify new exposure risks. K. Brzeski will also expand testing to other pathogens that may be a threat to red wolves including several tick borne illnesses that were detected last year (e.g. Lyme, canine rickettsiosis, and Rocky Mountain spotted fever), and viral pathogens that have been detected in other southeastern coyote populations (e.g. canine distemper virus, adenovirus type-1, and canine herpesvirus).

K. Wolf and W. Waddell had initially planned to visit the red wolf recovery area in fall 2013; however the trip was postponed due to the government shutdown and subsequent scheduling conflicts. We will visit the RWRA in NENC late Feb. 2014. This timing will coincide with the field trapping season and K. Brzeski's second year of sampling. We will meet with the field crew to discuss current animal capture and handling procedures and evaluate the current vaccination program in order to assess disease risks and prioritize future efforts.

After the visiting the RWRA, co-investigators will begin the formal synthesis of current protocols and methods. This process will allow summary of disease occurrences and trends, vaccination procedures, and field assessment. Documentation from this step will result in the creation of updated standard operating procedures that can then be evaluated further and modified accordingly. These initial steps will provide a solid framework to create a grant proposal seeking support for the larger efforts of building and implementing a comprehensive canid disease monitoring and prevention plan.