



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2003ND22B

Title: Effects of West Nile Virus Infection, Immune Function, and Age on Female Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*) Reproduction

Project Type: Research

Focus Categories: Surface Water, Wetlands, Water Quality

Keywords: WNV infection, aquatic habitat, mosquito borne diseases

Start Date: 03/01/2003

End Date: 02/29/2004

Federal Funds: \$10382.00

Matching Funds: \$20735.00

Congressional District: 1

Principal Investigators: Reed, Wendy

Abstract: The North Dakota Department of Health reported the first cases of WNV in the state in the summer of 2002. The first bird to test positive for WNV was a crow found on July 14th, and the first positive human cases were reported on August 28th. Because stagnant water in wetlands is ideal breeding habitat for mosquitoes, wildlife associated with these habitats may suffer high rates of WNV infection. The recent arrival of WNV into the state necessitates a study of the prevalence and immunological impact of WNV on native North Dakota wetland species. The prairie coteau region of central North Dakota has many small prairie wetlands, which provide essential foraging and breeding habitat for many species of birds. Yellow-headed blackbirds are an ideal species to study WNV infection because they breed in high-density wetland colonies, which insures a large sample size. Establishing rates of WNV infection in yellow-headed blackbirds is necessary to determine the vulnerability of this wetland dwelling species. Information gathered on WNV for this study can also be used to model and predict potential impacts of the virus on other species of wetland birds.

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