

NJ Department of Environmental Protection
Division of Fish and Wildlife
Office of Fish and Wildlife Health and Forensics

2006 Chronic Wasting Disease Functional Prion Genotype Survey

Wild deer previously sampled in the Chronic Wasting Disease (CWD) surveys of 2004-2005 and 2005-2006 and found negative for CWD prions were the subject of a survey to determine the types, frequency and locations of CWD functional prions in the New Jersey deer herds. Functional prions are the target proteins for the CWD prions in all deer. Different courses of CWD infection and susceptibilities appear to be related to the different functional proteins.

DNA typing of the genes responsible for these functional prions is being performed at the Northeast Wildlife DNA Laboratory on 148 wild deer from 89 Deer Management Units (Fig. 2) selected in a manner to represent broadly separated regions of the state. Attempts were made to select two deer from each unit when possible with 1 female and 1 male, preferably 1.5 years old (largest adult age class). Two additional deer from a captive herd in Hardyston, NJ, which contained deer imported from CWD endemic Wisconsin were also tested to determine if the genotype contrasts with those found in wild NJ deer.

While associations of functional prion genotypes and resistance to CWD infection are still being researched, the data may provide a basis for evaluating herd vulnerability and identify possible discrete populations for increased surveillance and/or harvest.

Figure 2

NJ CHRONIC WASTING DISEASE
FUNCTIONAL PRION GENOTYPE SURVEY

- Captive deer DMU sample (2 deer, 1 DMU)
- Wild deer DMU sample (148 deer, 89 DMUs)

Deer Harvest by DMU

- 501-800
- 251-500
- 101-250
- 31-100
- 11-30
- 0-10

