



Howard County Government News Release

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Department of Recreation & Parks announces new study to evaluate tick control strategies

ELLICOTT CITY, MD – Howard County Department of Recreation & Parks (DRP) today announced it has begun a study to evaluate integrated tick control strategies on single-family home sites located adjacent to large public lands in Howard County. The study, which has never been done before in Maryland, is part of a larger, five-year, area-wide Integrated Tick Management Project of the United States Department of Agriculture (USDA) Agricultural Research Service (ARS). DRP is collaborating with the USDA-ARS and the University of Maryland (UMD).

This new study is to test the single and combined effects of three control measures on tick abundance and the presence of tick-borne disease pathogens in Howard County residential neighborhoods and parkland through the deployment of: (1) non-lethal Select TCS™ rodent bait boxes; (2) ARS-patented “4-poster” deer treatment feeders (in county parks only) and (3) Met52® EC natural spray. The ultimate goal is to identify the most effective way to control ticks in residential areas and to reduce the overall tick population density in suburban landscape across Howard County and the state.

To carry out this three-pronged study, the project team (comprised of members from DRP, USDA-ARS and UMD) has selected seven sites throughout Howard County to serve as field study sites. These sites are: Cedar Lane Park; Centennial Park; Rockburn Branch Park; David Force Natural Resource Area; Middle Patuxent Environmental Area; Blandair Park and the Wincopin Trail of Savage Park.

The first year of the study will be spent recruiting homeowners' interested in participating in the study, sampling ticks to develop for baseline tick density data collection, sampling mice for immature ticks and the pathogens they carry, and trapping white-tailed deer for GPS collar placement. The goal is to catch 50 white-tailed deer and fit each with a GPS collar to track

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their movement between residential and natural areas. All animals captured will be released back into their habitat and the GPS collars will remain on each animal for approximately 18 to 24 months, after which they will automatically drop off from the animal and recovered by researchers.

During the second year, the three tick control measures will be deployed individually or in combination at selected study sites. Tick sampling and mouse trapping will continue throughout the entire study to allow for sufficient data collection in order to determine the effectiveness of different tick control measures after one, two and three years of continuous operation.

The tick sampling is done to monitor tick species and population density over time in a given area. The project team will be using a flagging method for tick sampling which involves a researcher gently moving a piece of white flannel at the end of a pole over the ground and vegetation in the areas of interest. For residential properties, researchers are interested in tick numbers from properties that are adjacent to study sites.

The chosen control methods are host-targeted; that is, they treat the primary hosts of ticks which are white-footed mice and white-tailed deer. The white-footed mice are the primary reservoir host for *Borrelia burgdorferi*, the causative agent of Lyme disease. Since the pathogen is transmitted to mice from ticks as well, trapping and testing mice allows scientists the ability to monitor the status of the pathogen in the area. White-tailed deer are abundant in Howard County. Monitoring and understanding deer movement patterns will help identify high risk areas so targeted control measures can be developed in order to break the life cycle of the tick to achieve population suppression.

The field work involving mice and deer in Howard County by the project team will follow the Institutional Animal Care and Use Committee protocol approved by the USDA-ARS for the safety of the animals.

For questions or more information about the study, contact DRP's Natural and Historic Resources Division at 410-313-1679.

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