I. Working Group General Details

The Working Group will meet via conference call on the second Wednesday of each month at 1:00PM Central Time (2:00PM EST). The next conference call will take place November 13 at 1:00PM Central.

The Working Group will also have a listserv that Jane will use to share conference call agendas and minutes, and that group members may use to share and discuss information related to tick IPM. This listserv will be set up shortly. Anyone who would like to be added to the listserv should contact jpetzoldt@ipminstitute.org.

Working Groups typically meet monthly via conference call, and annually or biannually in person. The idea is to facilitate exchange of the latest information among a diverse group of people who might not otherwise communicate regularly. The group will nominate two co-chairs, who will work closely with Jane, the facilitator, in guiding the group and developing ideas to present to the group.

Usually, the first step for any Working Group is to identify a list of priorities, which are then ranked by a Group poll. This list of priorities is periodically updated to reflect the changing needs of stakeholders, and the priority list is posted publicly on a Working Group website as a resource for group members, funders, and stakeholders. In addition, the list of priorities is a resource for people interested in designing projects that address specific stakeholder needs, and also for funders to verify that proposed projects meet stakeholder-identified needs. The Working Group may address one or more priorities by developing collective projects and applying for grant funding to carry out such projects.

Jane will draft an initial list of priorities based on discussions from the call, as well as from resources such as the 2013 Report on Tick-Borne Disease and IPM Conference, available: http://www.epa.gov/pestwise/events/tbd-ipm-march5-6-2013-conf-final-report.pdf

Group members may suggest resources and priorities to Jane, jpetzoldt@ipminstitute.org.

II. Group Member Introductions

Karla Lehtonen: Lyme disease advocate. Was forced to leave a biomedical science graduate program at the Wadsworth Center NYS Department of Health to care for her daughter who was diagnosed with Lyme four years ago. Has attended conferences on all aspects of Lyme disease.

Sherrie Juris: Atlantic Pest Solutions (Maine). Does educational outreach on tick avoidance and tick removal for communities, schools and companies in New Hampshire, Vermont and Maine.

Matt Frye: NYS IPM Program, education and outreach focus. Concerned about increasing incidence of tick-borne diseases in the Hudson Valley.

Stephen Vantassel: University of Nebraska- Lincoln. Specializes in vertebrate control. Runs Internet Center for Wildlife Damage Management. Will contribute expertise on ways to manage vertebrate hosts as a way to suppress reservoir tick populations.
Tick IPM Working Group  
October 9, 2013  
Send corrections to jpetzoldt@ipminstitute.org

**Bennett Jordon**: Entomologist for the National Pest Management Association. Has a background in termite management, but is interested in learning more about tick IPM.

**Sara Robinson**: Vector-borne disease coordinator for the state of Maine. Involved in surveillance and education.

**Alison Kane**: Was not available to speak during the introduction portion of the call.

**Kirby Stafford**: Connecticut Agricultural Experiment Station. Has conducted research for many years on tick ecology and control. Published the Tick Management Handbook, and believes the group could play a role in updating the Handbook on the latest tick IPM research.

**Daniel Soneshine**: 50 years of experience. Has investigated and patented the use of tick pheromones to create pheromone-assisted technologies to control ticks, and believes these tools have potential to be commercialized. Most recently has been working on the Tick Rover, a robot that controls up to 100% of ticks in small targeted areas, and is looking for funding for commercialization of the Tick Rover.

**Peter Krause** – Senior research scientist at the Yale School of Public Health. Studies tick-borne diseases, primarily human babesiosis and *Borrelia miyamotoi*.

**Tom Mather**: University of Rhode Island, conducts research as the director of Center for Vector-Borne Disease, and conducts outreach as the director of the TickEncounter Resource Center. Studies tick ecology. Feels a big effort is needed for outreach to connect with the lived experiences of the public.

**David Walker**: Faculty member of the University of Texas Medical Branch in Galveston. Pathologist, rickettsiologist, immunologist. Has studied tick-borne rickettsia, ehrlichia for 39 years. Looks at various aspects of immunity, pathogenesis, diagnosis, and vector biology. Current research focused on vaccine development for rickettsia and ehrlichia, and the host-pathogen interface.

**Michael Levin**: Rickettsia researcher with CDC in Atlanta. Researches tick-borne pathogen transmission in nature. IPM efforts include control of ticks in Arizona. Interested in all aspects of tick control.

**Tom Delaney**: Director of government affairs with the National Land Care Network, the National Lawn Care Association. Concerned that his members are particularly at risk of acquiring tick-borne diseases, particularly Hispanic members who are not well-informed about the risks of TBD. Has lobbied for two federal bills that would establish the Tick-Borne Diseases Advisory Committee, which would create avenues communications among federal agencies and private agencies to advise priorities of tick-borne diseases and to prevent duplication. HR Bill 610 and Senate 719.

**Charles Apperson**: Vector biologist at North Carolina State University in the department of entomology. Interested in the ecology and behavior of ticks, and the eco-epidemiology of diseases such as spotted-fever rickettsiosis and Lyme.

**Jody Gangloff-Kaufman**: Community IPM Coordinator for the NYS IPM Program. Has noticed an increase in the number of tick complaints, especially on school grounds.
Tick IPM Working Group  
October 9, 2013  
Send corrections to jpetzoldt@ipminstitute.org

**Jill Auerbach**: Member of the Dutchess County Legislative Tick Task Force, Chair of the Hudson Valley Lyme Disease Association. Was diagnosed with Lyme disease, and is dissatisfied with the level of funding and research for tick-borne diseases. Concerned about the rapid increase in tick populations and infection rates in NYS and beyond. Area programs must be developed for parklands, and affordable, acceptable solutions are needed for homeowners and communities.

**John Carroll**: Retired research entomologist from USDA-ARS. Research investigated the biology, behavior, and control of ticks for over 20 years.

**Chuck Lubelczyk**: Maine Medical Research Center Institute in Scarborough, Maine. Has conducted tick-borne disease surveillance since late 1980s. Has worked with botanical acaricides and deer control measures to control *I. scapularis* on coastal Maine islands.

**Kristin Sinclair** – Health committee director for the NYS Senate Health Committee.

**Laura Hayes**: Postdoc on an integrated tick management project at the Connecticut Agricultural Experiment Station. Has also worked with mosquito-borne disease ecology and fungal plant pathogens.

**Mike Herring, Joe Laco, Justin Gerding**: CDC National Center for Environmental Health. Provide training and work with state, local, and tribal health departments to promote knowledge about vector-borne diseases and IPM.

**Betty Little**: NYS Senator for the 45th Senate District. Recently hosted a forum on Lyme disease, which is prevalent in district. Co-chairs the new Senate Task Force on Lyme Disease with Senator Hannon.

**Tom Green**: Entomologist, president of the IPM Institute of North America, Inc. which seeks market-based mechanisms for improving health and environmental quality through IPM. The Institute leads agricultural and residential IPM projects such as the Green Shield Certified program for pest management professionals, as well as supply-chain sustainability projects for food retailers such as Whole Foods, McDonalds, and SYSCO.

**Saravanan Thangamani**: Vector-borne disease scientist from the University of Texas Medical Branch in Galveston. In terms of IPM, the lab has been working with a private company for the development of chemical controls for mosquitoes and ticks.

**Maria Diuk-Wasser**: Professor at the Yale School of Public Health, researches the ecology and spatial expansion of tick-borne diseases, especially borrelia and babesia. Interested in co-infection and how human behavior and land use influences tick-borne disease ecology. Would like to learn about IPM applications that could be used in her research.

**Jennifer Reid**: BLAST Lyme Program in Ridgefield, CT with the Ridgefield Health Department. BLAST Lyme develops community programming to bring the latest science on prevention of tick-borne diseases to the public.
III. Discussion Summary of Possible Roles/Priorities/Issues to be addressed by the Tick IPM Working Group

Many people who would be in a position to use information from the Federal TBD Work Group do not have access to that information. There’s an opportunity to make people aware of new innovations in research and outreach as they become available.

A major problem is that very little federal government spending on tick-borne disease goes towards controlling the tick populations. An activity of the group could be to pressure policymakers to fund tick control. The focus is too often on the diseases and problems of patients, not the source of the disease.

The group could compile tick research and resources into a centralized clearinghouse website for reference. This would help to avoid duplication and facilitate collaborative work.

There are plenty of alternative control techniques and technologies. This group shouldn’t advocate one particular method. Instead, this group should encourage development of “tick smart” communities through a comprehensive IPM approach. Tick management programs should include monitoring and education components as well. At the International Lyme Conference in Boston, there was a lot of discussion of the rapid range expansion of ticks and tick-borne diseases. Surveillance is a key component of tick IPM.

Avoiding chemicals would be ideal; however, certain areas suffer from severe tick population pressure and need immediate solutions. The group should develop short-term strategies for severely affected areas.

There is potential for pest control companies to get involved in tick control. For example, Mainely Ticks, owned by Bob Maurais, as well as Atlantic Pest Solutions are actively engaged in tick control and in developing materials for public outreach campaigns. The group could identify the keys to success for developing effective, affordable and profitable tick management programs and communicate these ideas to other pest control companies.

Mosquito control divisions have elaborate systems of spray trucks, personnel and monitoring systems. The problem of ticks warrants these types of responses. Mosquito control districts have expressed interest in going into tick control in the past, but the emergence of West Nile virus caused a refocus on mosquitoes. The group might encourage cities, towns and land managers to include tick monitoring and control commissions. This could be financed with startup funds from federal government. Dutchess County programs are a good example, especially for surveillance.

More attention should be given to rapid population growth of white-tailed deer, and concurrent rise of ticks and tick-borne diseases. Controlling deer populations and other vertebrate hosts could limit reservoir populations of ticks. Yet, lethal control of wildlife is often met with resistance from animal advocates, and wildlife contraceptives are not yet economical. For these reasons, municipal managers opt for a chemical acaricide to avoid political resistance from community members. It took community
members on Monhegan Island in Maine several years to accept deer population control as a solution to ticks. This example demonstrates that cultural acceptance of lethal control measures is possible, but takes time.

Managing wildlife appropriately is an important step to reduce tick populations, and must be part of a long-term program for tick management. Studies in Connecticut, Massachusetts and Maine have indicated a target density of 20 deer per square mile could be sufficient.