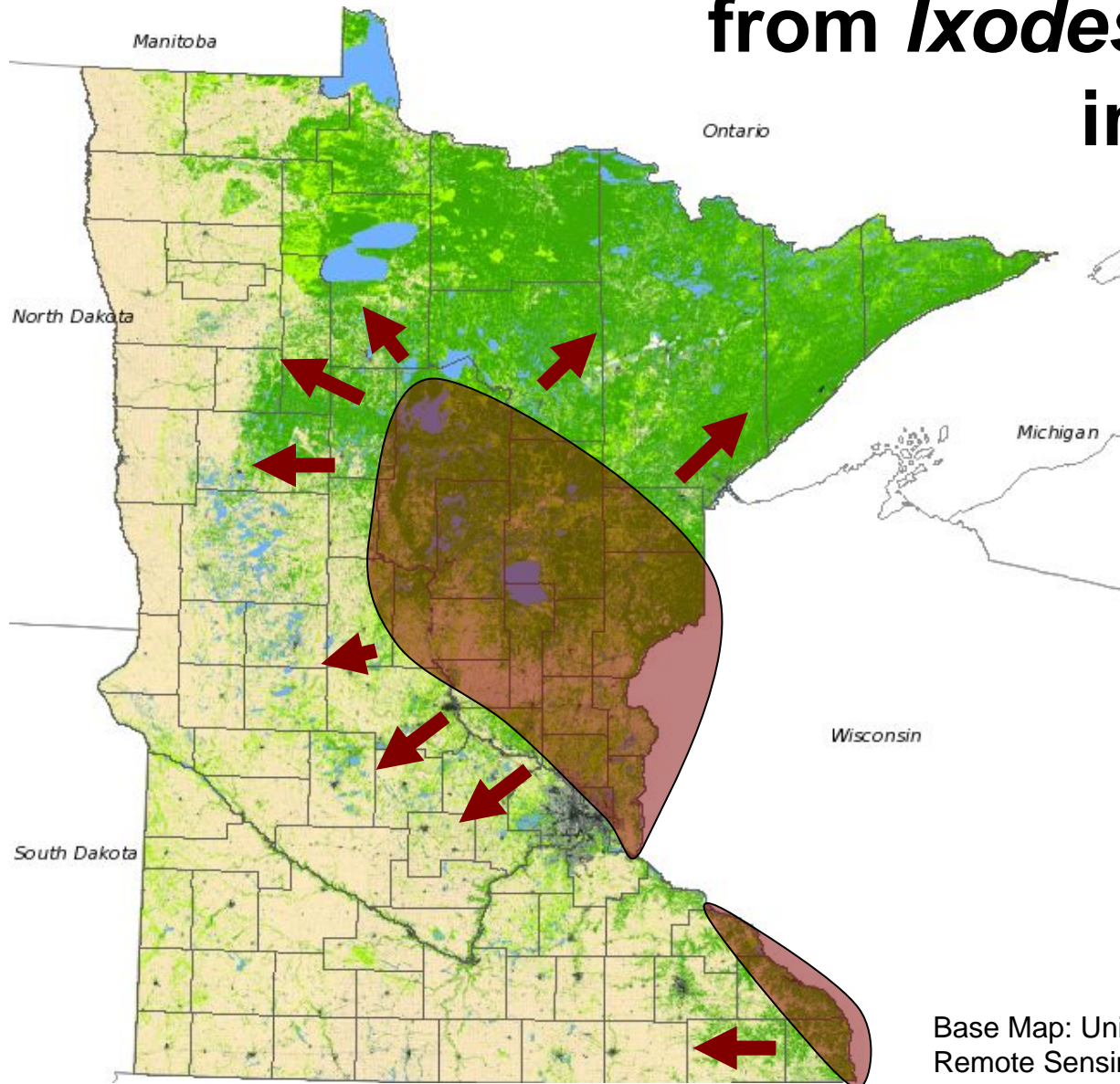


***IXODES SCAPULARIS***  
**FIELD STUDIES IN**  
**MINNESOTA**

**Melissa Kemperman, MPH**  
**Minnesota Department of Health (MDH)**

# Recent Expansion of Disease Risk from *Ixodes scapularis* in Minnesota



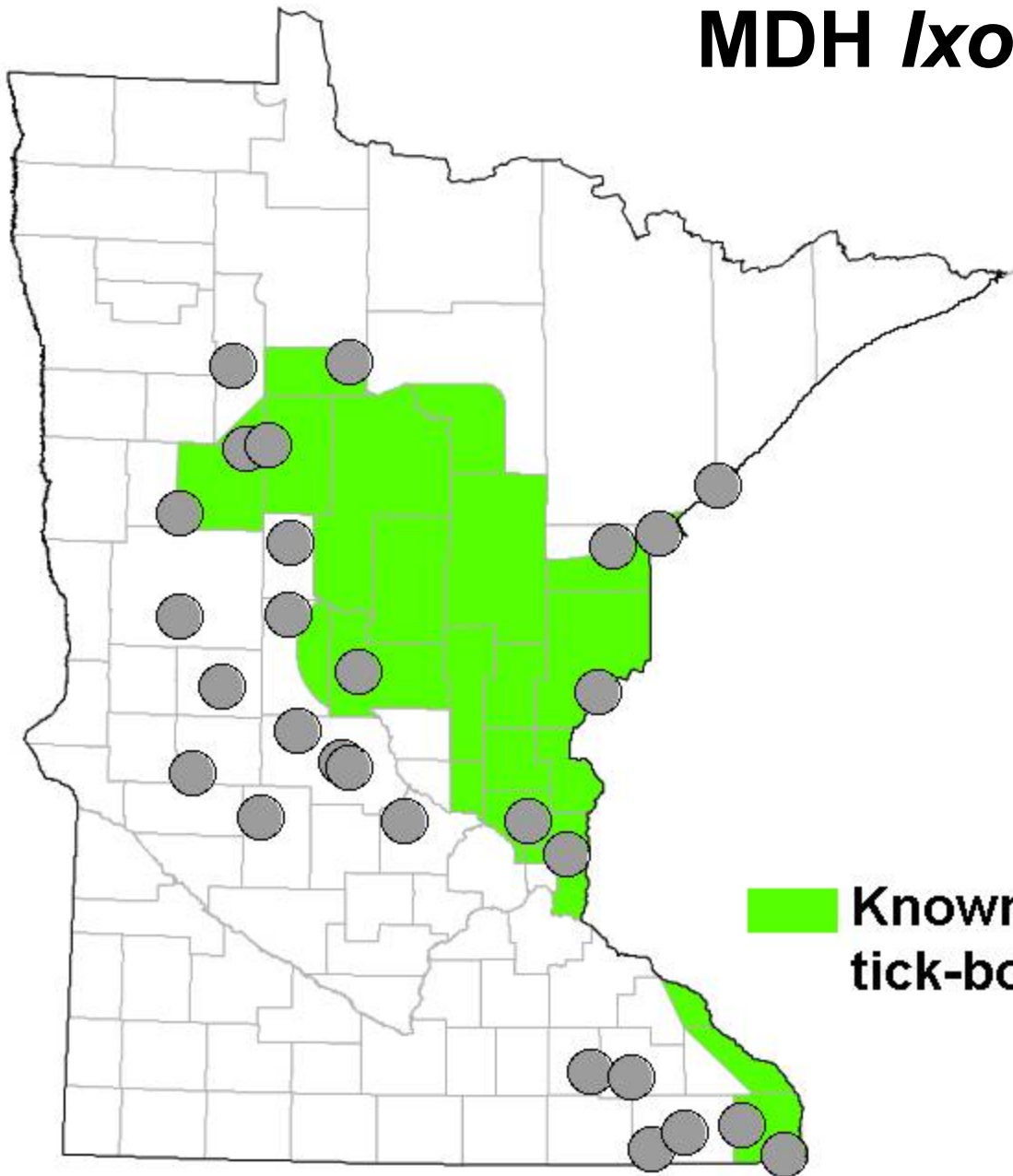
Base Map: University of Minnesota,  
Remote Sensing & Geospatial Analysis Laboratory

# **Scope of *Ixodes scapularis* Studies at MDH**

- **Timeframe**
  - ongoing since 2005
- **Location**
  - sites within and at periphery of known high-risk zone for tick-borne disease
- **Measurements**
  - distribution, abundance, and prevalence of infection



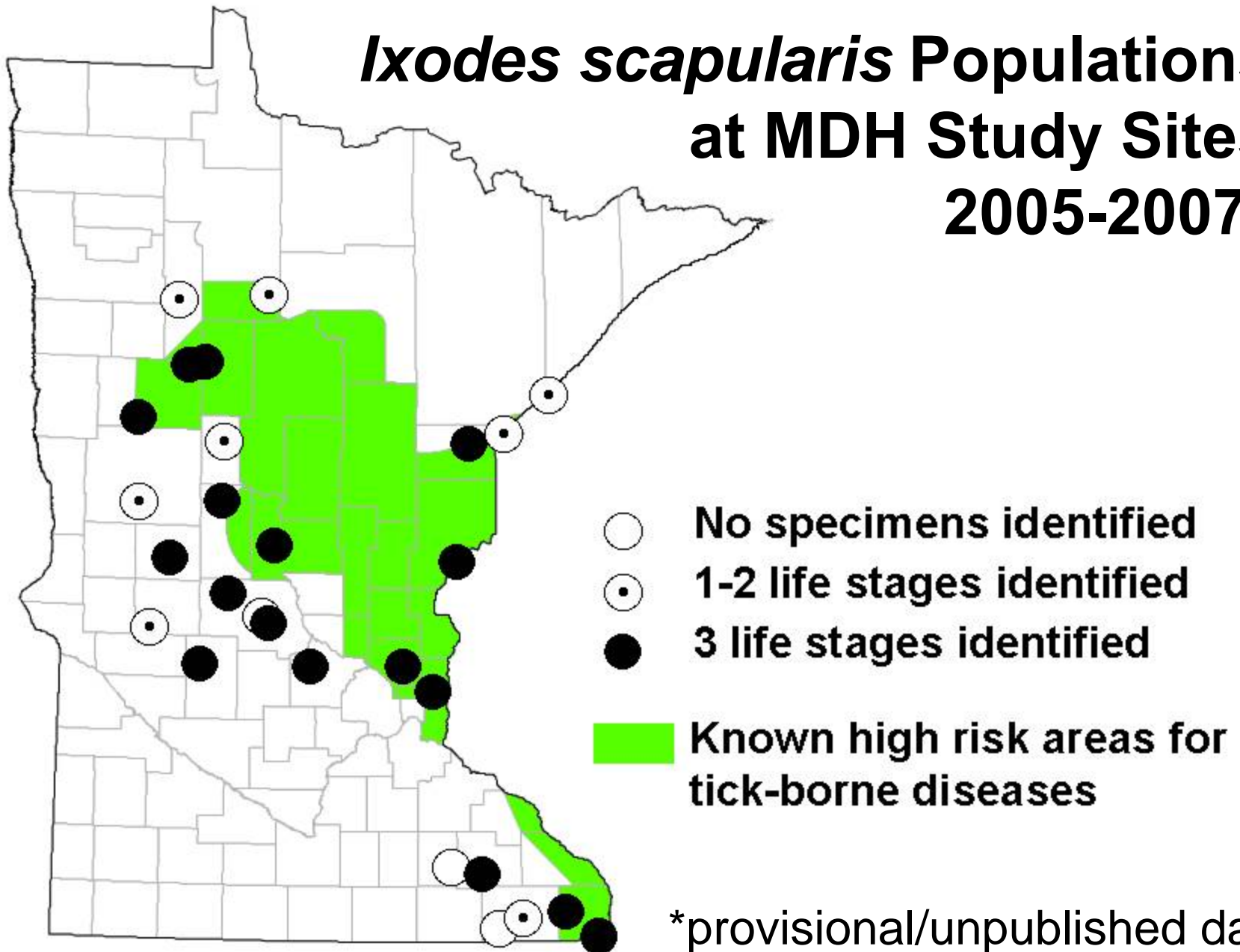
# MDH *Ixodes scapularis* Study Sites 2005-2007



 Known high risk areas for tick-borne diseases



# *Ixodes scapularis* Populations at MDH Study Sites 2005-2007\*



\*provisional/unpublished data

# Abundance of Host-Seeking *I. scapularis*, Minnesota, 2005-2007\*

Stage	Ticks per 1,000 meters median (range)
Larvae	4.5 (0 – 414.7)
Nymphs	2.7 (0 – 120.3)
Adult Females	0.7 (0 – 6.7)

\* Provisional/unpublished data

# *I. scapularis* Infection Prevalence, Minnesota, 2005-2007\*

	Adults	Nymphs
	median (range)	median (range)
<i>Borrelia burgdorferi</i>	27% (6 - 58%)	9% (0 - 26%)
<i>Anaplasma phagocytophilum</i>	9% (0 - 22%)	0% (0 - 15%)
<i>Babesia microti</i>	5% (0 - 24%)	0% (0 - 7%)

\* For sites with sample size  $\geq 10$  ticks.  
Provisional/unpublished data.

# Entomologic Risk Index for *Borrelia burgdorferi* in *Ixodes scapularis* Nymphs 2005-2007\*

