



Reflecting on the implementation of a community-based, long-term tick surveillance program in Alaska

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Why do we care about ticks?



Tick-borne diseases



Rocky Mountain spotted fever is classically characterized by an multiple spots around the location of the tick bite.



Tularemia is characterized by an 'orange' appearance around the location of the tick bite.



Lyme disease is classically characterized by a 'bull's-eye' type rash.



Dermacentor albipictus (Winter tick or Moose tick)



Adult Female



Adult Male

But what about Alaska?

6 tick species historically present in Alaska



Haemaphysalis leporispalustris
(hare / rabbit tick)



Ixodes angustus
(squirrel / vole tick)



Ixodes auritulus
Ixodes howelli
(bird ticks)



Ixodes signatus
Ixodes uriae
(seabird ticks)



→
→
“Non-native” tick species in Alaska

Ticks That Can Carry Lyme Disease Are Spreading Across the US

By [Mindy Weisberger](#) January 21, 2016 [Health](#)

Ticks Becoming Endemic In Iceland

Published [May 29, 2014](#)

Radio Sweden

Your best source of news from Sweden


Rising number of people picking up TBE-infection

2:34 min [My playlist](#) [Share](#)

Published tisdag 20 augusti kl 11.25

A record number of Swedes are taking the vaccine against TBE - Tick Borne Encephalitis. But the disease is still spreading in the country.

Evidence for increasing densities and geographic ranges of tick species of public health significance other than *Ixodes scapularis* in Québec, Canada

Salima Gasmí, Catherine Bouchard, Nicholas H. Ogden, Ariane Adam-Poupart, Yann Pelcat, Erin E. Rees, François Milord, Patrick A. Leighton, Robbin L. Lindsay, Jules K. Koffi, Karine Thivierge 

Published: August 22, 2018 • <https://doi.org/10.1371/journal.pone.0201924>

How are these ticks getting to Alaska?



How are we tracking ticks in Alaska?



Funding and Partnerships



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ALASKA

Submit-A-Tick program

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ALASKA SUBMIT-A-TICK PROGRAM

In 2019, the Alaska Office of the State Veterinarian, in collaboration with the Alaska Department of Fish and Game and the University of Alaska, began the Alaska Submit-A-Tick Program. Through this program, individuals who find ticks on themselves, their family members, pets, or wildlife (e.g. hunted or trapped animals) can submit ticks for species identification and pathogen testing. Veterinarians, biologists, and other Alaskans who handle domestic animals and wildlife in the state are important resources for the monitoring program, and we welcome you to submit ticks.

Researchers are asking Alaskans to submit ticks to help determine which tick species are currently in the state. Tick submissions will also help us learn more about how ticks are being imported into Alaska so that we can create effective strategies to limit their introduction. Ticks can transmit bacteria, parasites, and viruses that can cause diseases in humans and wildlife. Pathogen testing allows us to assess [tickborne disease](#) risk in the state.

Which ticks have been found in Alaska?

The [results of our tick surveillance program](#) are now available. We periodically update these results as we receive ticks so check back for the latest information!

Submit-A-Tick!

It is only through the help and participation of people like you that this surveillance effort will be successful.

If you are interested in submitting a tick that you have found, follow the steps below.

QUICK TICK LINKS

- [Information on Ticks](#)
- [Is This a Tick?](#)
- [Tick Identification](#)
- [Tick Removal](#)
- [Tickborne Diseases](#)
- [Submit-A-Tick Program](#)
- [Alaska Tick Surveillance Results](#)
- [Tick Outreach Ministries](#)

DO WE HAVE TICKS IN ALASKA?



YES! Alaska is home to several kinds of ticks. Recently, several new kinds of ticks have been found on people and pets in the state. We need your help to learn more!

HOW CAN YOU HELP KEEP YOUR PETS AND FAMILY SAFE?

Learn how to identify ticks and search for them on yourself, your pets, and wildlife.

If traveling out of state with your pet, ask your veterinarian about tick and flea prevention.

If you find a tick, SUBMIT IT!

1. Put the tick in a clean container.
2. Download and fill out the Submit-A-Tick form from the website below.
3. Mail to the Office of the State Veterinarian.



Learn more about ticks in Alaska and the Alaska Submit-A-Tick Program

www.dec.alaska.gov/eh/vet/ticks

Questions?
Email alaskaticks@alaska.edu



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WE ARE ON THE HUNT FOR TICKS!



Alaska is home to several kinds of ticks. Recently, several new kinds of ticks have been found on people and pets in the state. We need your help to learn more!

HOW CAN YOU HELP PROTECT YOUR FAMILY, PETS, AND WILDLIFE?



Check the ears, neck, jaw line, eyes, and feet of hunted animals for ticks.



Comb through the mammal's fur with your fingers to find ticks.

If you find a tick, SUBMIT IT!

1. Put the tick in a clean container.
2. Download and fill out the Submit-A-Tick form from the website below.
3. Mail to the Office of the State Veterinarian.

Learn more about ticks in Alaska and the Alaska Submit-A-Tick Program

www.dec.alaska.gov/eh/vet/ticks

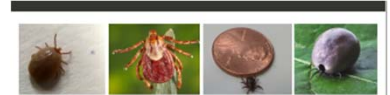
Questions?
Email alaskaticks@alaska.edu



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Outreach



TICKS IN ALASKA

Ticks are common in many parts of the world, including Alaska. However -

several new tick species have been found in Alaska. Many of these new tick species bite humans and domestic and wild animals and are capable of transmitting diseases.

What are we doing to monitor ticks in Alaska?

The University of Alaska is working with the Alaska Department of Fish and Game and the Office of the State Veterinarian to monitor ticks and tick-borne diseases in Alaska. Monitoring provides information about the risk of tick exposures in Alaska and helps identify where in the state ticks are present.

Anyone can contribute to ongoing efforts by submitting found ticks through the Alaska Submit-A-Tick program.

For more information, visit: <http://dec.alaska.gov/eh/vet/ticks>

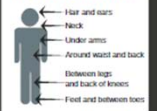
SAFE TICK REMOVAL

- Use fine-tipped tweezers to grasp the tick as close to the skin's surface as possible.
- Pull upward with steady, even pressure. Avoid twisting or jerking the tick.
- After removing the tick, clean the bite area and your hands with rubbing alcohol, or soap and water.
- Place the tick in a clean sealed bag or container, and submit it through the Alaska Submit-A-Tick Program.

✓ TICK-all-the-boxes

- Learn how to identify ticks and how to search for them on yourself, your pet, and wildlife.
- Traveling with your pet? Talk to your vet about whether you should consider using flea or tick prevention. And remember to check your pet for ticks before returning home.
- Take appropriate precautions when traveling outside of Alaska: know where to suspect ticks; take steps to avoid contact with ticks; treat clothing and gear; and use EPA-registered insect repellents.

CHECK FOR TICKS



Find a tick? Submit it!

Reverse for details



SUBMITTING A TICK

Calling all biologists!

Going out into the field? Want to help with active sampling?

When you submit ticks, we can learn what kinds of ticks are feeding on Alaskan wildlife and if they are carrying any pathogens.

Request a field kit today via uaa_alaskaticks@alaska.edu

Tick Collection Guide for Small and Large Mammal Biologists



Ticks in Alaska can be found on small and large mammals, and birds. Small and large animal movement creates opportunities for tick and tick-borne pathogen dispersal. Moreover, wildlife can be reservoirs of tick-borne pathogens that cause disease in humans and animals. In Alaska, the arrival of the winter tick (*Dermacentor albipictus*) is a major concern. This tick multiplies rapidly on moose hosts, leading to substantial infestations that cause anemia and hair loss. The moose tick has been found in the Yukon on elk, moose, mule deer, and other wildlife. The migration of mule deer into the Interior of Alaska from Canada may bring moose ticks into the state.

The Office of the State Veterinarian, Alaska Department of Fish & Game, and researchers at the University of Alaska are working together to understand the role of ticks and tick-borne pathogens in Alaska. The **Alaska Submit-A-Tick Program** collects tick submissions from the public, veterinarians, and wildlife biologists for species identification and pathogen testing. Tick submissions are included in a long-term database of ticks found in the state.

We recognize that tick collection is an additional task during a busy field season and appreciate your contribution to this surveillance effort. This guide was developed to assist with the collection and submission process of ticks found on mammals.

Screening small and large mammals for ticks

When searching for ticks on mammals, take extra care to look near the ear canals, nape, mandibular area, perimeter of the eyes, and feet of each animal. Ticks may be attached (i.e. feeding) or unattached. Attached ticks will likely be engorged and more visible than unattached ticks. Ticks go through three life stages (larva, nymph, and adult) and they look slightly different at each stage. Ticks are very small. Adult ticks are about the size of an apple seed, nymphs are about the size of a poppy seed, and larva are the size of a grain of sand. If you aren't sure if what you found is a tick, feel free to send it in, and we will identify it for you.



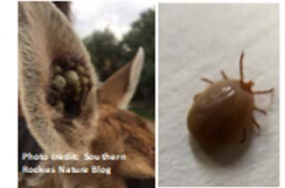
Tick removal and collection

1. Comb through the mammal's fur with your fingers to find ticks. Part fur so you can see the skin surface.
2. Using fine pointed tweezers, pluck each tick. Gently grasp the tick as close to the skin's surface as possible, and pull upward with steady, even pressure. Do not twist or jerk the tick because this can cause the mouthparts to break off and remain in the skin.
3. Place dislodged ticks into a vial. Other clean, hard-sided containers can be used. Ziploc bags will work in a pinch, but it is easier for ticks to be crushed during transport.

Note that **multiple ticks** can be placed in the same vial (or container) if they are from the **same animal**. Please put ticks from different animals into different containers. If you are submitting multiple vials, be sure to number each vial and include the number on the submission form.

4. Fill out the *Alaska Submit-A-Tick form*. This form can be found below or at <http://decalaska.gov/eh/vet/ticks>. If you have ticks from more than one animal, record your contact information on the *Submit-A-Tick form* and then use the *Biologist Extension form* to record the information about tick submissions.

5. Send ticks and completed forms to the Office of the State Veterinarian: 5251 Dr. Martin Luther King Jr. Drive, Anchorage, AK 99507

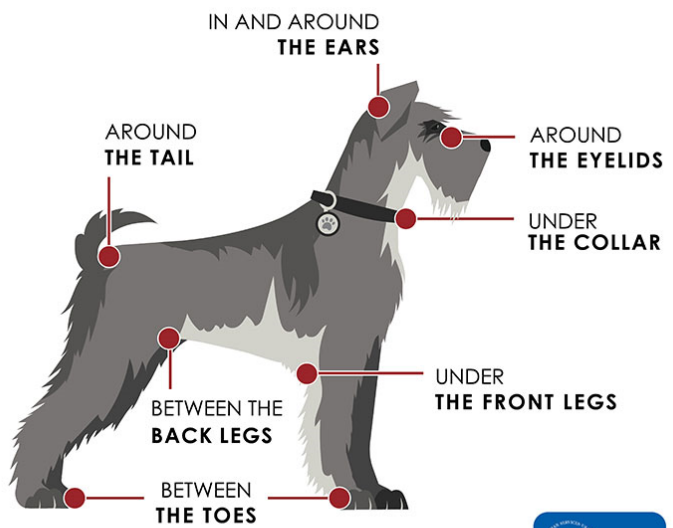


Thank you for your participation! Contact us at alaskaticks@alaska.edu to request sample vials, shipping materials, or if you have any questions.

The Winter tick has been found on wildlife in the Yukon. If you see a moose with hair loss, note the location, take a photo if possible, and immediately contact Dr. Kimberlee Beckmen (kimberlee.beckmen@alaska.gov) or ADF&G



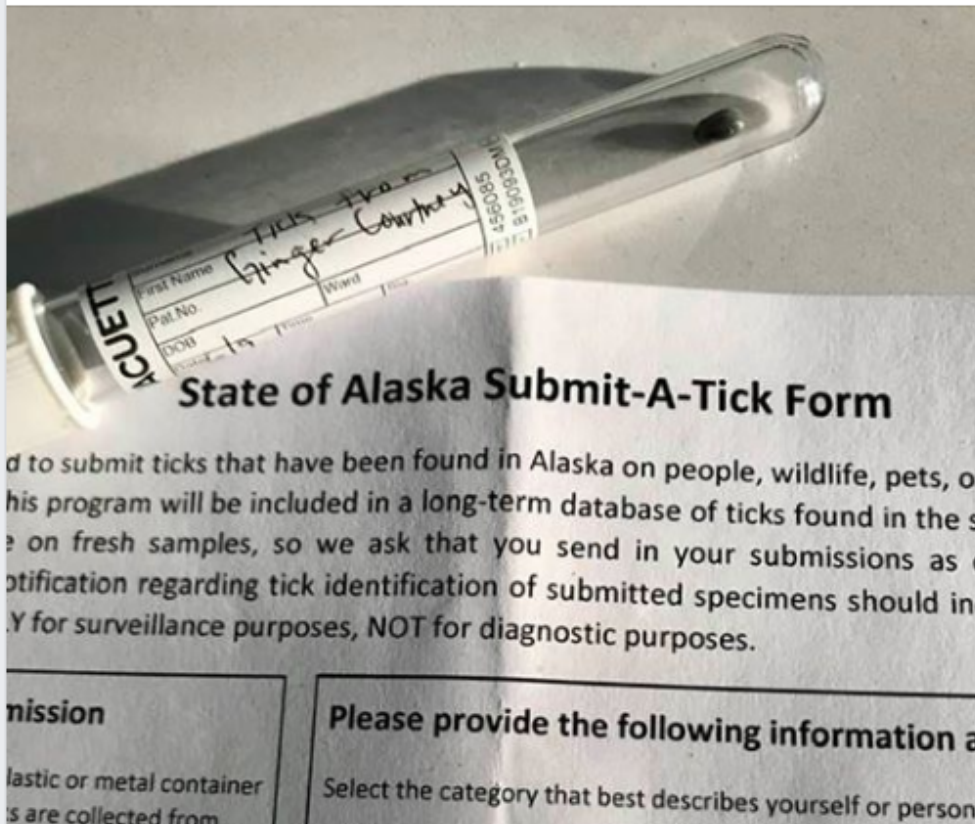
WHERE TO CHECK YOUR PET FOR TICKS



293332-A



I took Ginger in to get her spring "do" today, and the groomer found a tick on her!! If you are one of my NC friends, your response is likely "So what?" Trust me, that is not the response in Alaska!! So next I need to send the tick to the Office of the State Veterinarian and tell them everywhere we've been in the last couple of weeks (GPS coordinates???) and where I think she picked up the tick. Feels like contact tracing for ticks!! I love living in a state where the State of Alaska Submit-A-Tick Form is actually a thing. 😊😊😊



Health

More ticks are being reported in Alaska. Researchers want to know how dangerous they are.

By Tegan Hanlon
Updated: July 28, 2018 Published: July 27, 2018

This tick was found on a dog in Anchorage this year. (Bill Roth / ADN)

A new research project will test ticks found in Alaska to see if the tiny, blood-sucking arachnids carry the pathogens that causeThanks for being an ADN.com reader.

Are there ticks in Alaska?

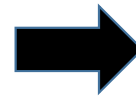
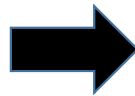
Tick found on Cordova dog could be native to Alaska; UAA tick study underway

By Emily Mesner - July 26, 2018

Ticks — and tick-borne risks — are creeping north to the Arctic as the climate warms

While some ticks are native to Alaska, new arrivals and warmer temperatures mean they pose a growing threat to humans and wildlife.

Data sharing



Areas for improvement

- Citizen science data come with limitations in accuracy / recall / completeness
- Relies on the participation of state agencies with limited resources
- Relies on volunteer efforts from academic partners
- Uncertainty regarding the organization of archived samples

Strengths

- University-state partnership supported the resources for initial start up while also providing a long-term home for the program
- Up front effort to develop the website and outreach materials enabled easy promotion of the program
- Overall, citizen science supported (and continues to support) an long-term, spatially-distributed dataset that we could not have accomplished through field work
- Provides a “big picture,” slow trickle of data → hypothesis generating!

To request tick posters or other outreach materials:

alaskaticks@alaska.edu

Alaska Submit-A-Tick Website

<https://dec.alaska.gov/eh/vet/ticks/submit-a-tick>



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