

Insect and disease activity in Alaska

Elizabeth Graham, PhD Forest Entomologist

Elizabeth.e.graham@usda.gov

Lori Winton, PhD Forest Pathologist

Loretta.winton@usda.gov

USDA Forest Service

State & Private Forestry

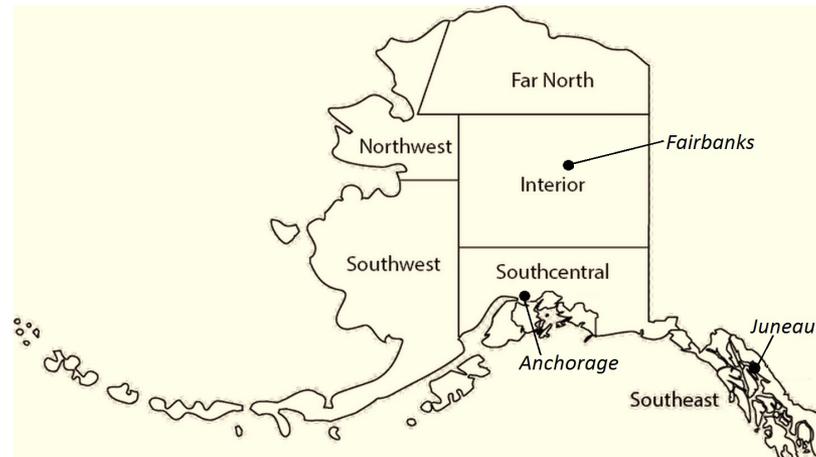
Forest Health Protection

Acknowledgments

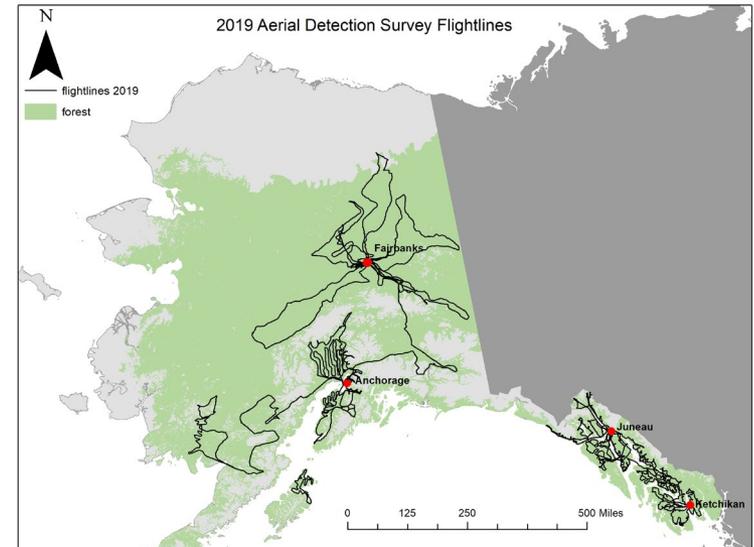


State and Private Forestry Forest Health Protection

- Who are we?
 - Separate branch of the Forest Service with the authority to work on federal, state and private lands.
 - Our mission is to protect and enhance forest health by providing landowners and managers with information and resources. We monitor the extent and impacts of damaging insects, diseases and invasive plants, provide timely survey and monitoring information and offer technical and financial assistance to prevent and control forest pest outbreaks.
 - https://www.fs.usda.gov/detail/r10/forest-grasslandhealth/?cid=fsbdev2_038892



“Monitor the extent and impacts of insect and disease damage”



“Offer technical and financial assistance to prevent and control forest pest outbreaks”



Forest Health Conditions

- https://www.fs.usda.gov/detailfull/r10/forest-grasslandhealth/?cid=fsbdev2_038884&width=full

The screenshot shows the USDA Forest Service website for Alaska Region 10. The page is titled "Forest & Grassland Health" and features a navigation menu on the left with categories like "Special Places", "Alerts & Notices", and "Forest & Grassland Health". The main content area is titled "Forest Health Conditions in Alaska Reports & Damage Maps (2002-2019)" and includes a paragraph of introductory text. Below the text is a table with the following columns: Year, Forest Health Conditions in Alaska (full report), Highlights Section (brief summary), Aerial Detection Survey (ADS) Damage & Frigatine Maps, Interactive Aerial Detection & Ground Survey Maps, and Forest Health Highlights StoryMaps.

Year	Forest Health Conditions in Alaska (full report)	Highlights Section (brief summary)	Aerial Detection Survey (ADS) Damage & Frigatine Maps	Interactive Aerial Detection & Ground Survey Maps	Forest Health Highlights StoryMaps
2019		2019 Forest health highlights	2019 ADS Maps	2019 ADS Map 2019 Ground Survey Map	
2018		2018 Forest Health highlights	2018 ADS Maps	2018 ADS Map 2018 Insect Ground Survey Map 2018 Disease Ground Survey Map	
2017		2017 Forest health highlights	2017 ADS Maps	2017 ADS Map	
2016		2016 Forest health highlights	2016 ADS Maps	--	--
2015		2015 Forest health highlights	2015 ADS Maps	--	--
2014		2014 Forest health highlights	2014 ADS Maps	--	--
2013		2013 Forest health highlights	2013 ADS Maps	--	--

iNaturalist.org

- <https://www.inaturalist.org/projects/alaska-forest-health-observations-2020>

The screenshot displays the iNaturalist website interface for the 'Alaska Forest Health Observations 2020' project. At the top, there is a navigation bar with links for 'Explore', 'Your Observations', 'Community', 'Identify', and 'More'. A search bar is also present. Below the navigation, a banner features a collage of images related to forest health, including insects and foliage. The banner includes the text 'Alaska Forest Health Observations 2020' and 'APR 1, 2020 - SEP 30, 2020'. To the right of the banner, there is an 'About' section with a 'Leave' button and a 'Read More' link. Below the banner, a 'Stats' section displays the following information: Overview, 1,162 OBSERVATIONS, 179 SPECIES, 109 IDENTIFIERS, and 190 OBSERVERS. The 'Recent Observations' section shows a grid of four insect observations with their respective photos and details:

Observation	Species	Time Ago
Cutworms and Dart Mo... Subfamily Noctuidae		3 hours ago
Setaceous Hebrew Cha... <i>Xestia c-nigrum</i>		1 3 hours ago
Cutworm Moths and AL... Family Noctuidae		a day ago
Thoughtful Apamea <i>Apamea cogitata</i>		a day ago

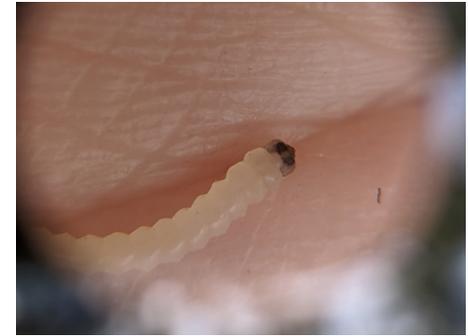
Below the 'Recent Observations' section, there are three sub-sections: 'Most Observations' (awenninger, 235), 'Most Species' (awenninger, 40), and 'Most Observed Species' (Western Carpet, 59). Other species listed include Speckled Green Fruitworm Moth (36) and Rusty Tussock Moth (35).

What's happening 2020?

- Leafminers in birch and alder
- Western tent caterpillar found in Ketchikan
- Rusty tussock moth
- Hemlock sawfly
- Spruce beetle



Birch and alder leafminers





Western tent caterpillar

- Reported in Ketchikan in June
- Feeding on alder and cottonwood
- Defoliation moderate
- Also possible reports from Hyder and Annette Island
- Western tent caterpillars were accidentally introduced into Anchorage in 1988 and 2003 on nursery stock and since eradicated.



Figure 2 – Approximate distribution of western tent caterpillar and its subspecies in North America

Would you prefer to view common names used in the United States? Yes No

Observations

Western Tent Caterpillar Location Go Filters

The World **1,883** OBSERVATIONS 1 SPECIES 331 IDENTIFIERS 1,381 OBSERVERS

Map Grid List Places of Interest Redo search in map

Map Legend

- Western Tent Caterpillar** (*Malacosoma californica*)
Okanagan-Similkame...
• Aug 15, 2020 2d
- Western Tent Caterpillar** (*Malacosoma californica*)
E. C. Manning Prov...
• Aug 14, 2020 3d
- Western Tent Caterpillar** (*Malacosoma californica*)
Seahurst Park, Bur...
• May 24, 2016 Research Grade 1 3d
- Western Tent Caterpillar** (*Malacosoma californica*)
Thurston County, W...
• Jul 6, 2020

Map data ©2020 Google, INEGI Terms of Use

Rusty tussock moth

- Native to Europe
- Generalist feeder
- Become established throughout Alaska
- Heavy defoliation reported in Talkeetna and Hatcher Pass
- Can cause allergic reaction due to the hairs on the caterpillars



Rusty Tussock Moth

Observations · iNaturalist

Search Explore Your Observations Community Identify More Upload 0 3

Would you prefer to view common names used in the United States? Yes No

Observations



The World

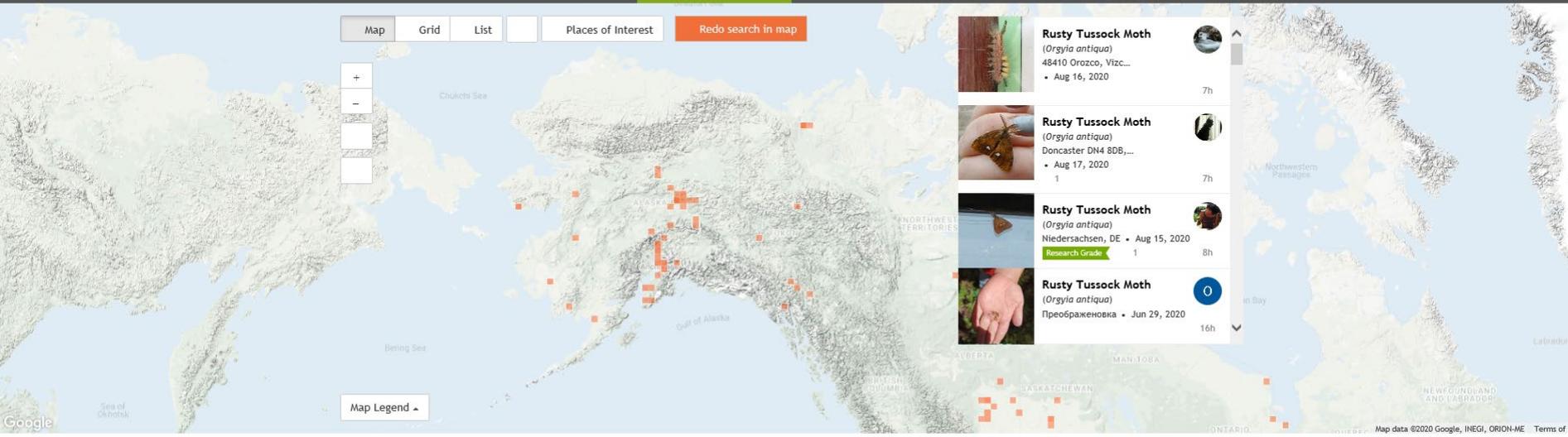
1,953
OBSERVATIONS

1
SPECIES

502
IDENTIFIERS

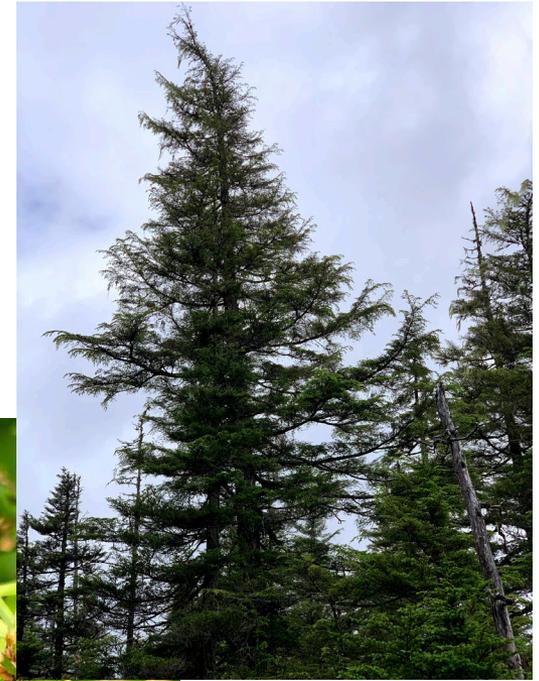
1,613
OBSERVERS

Map Grid List



- **Rusty Tussock Moth**
(*Orgyia antiqua*)
48410 Oracco, Vtzc...
• Aug 16, 2020
7h
- **Rusty Tussock Moth**
(*Orgyia antiqua*)
Doncaster DN4 8DB,...
• Aug 17, 2020
1
7h
- **Rusty Tussock Moth**
(*Orgyia antiqua*)
Niedersachsen, DE • Aug 15, 2020
Research Grade 1
8h
- **Rusty Tussock Moth**
(*Orgyia antiqua*)
Преображеновка • Jun 29, 2020
0
16h

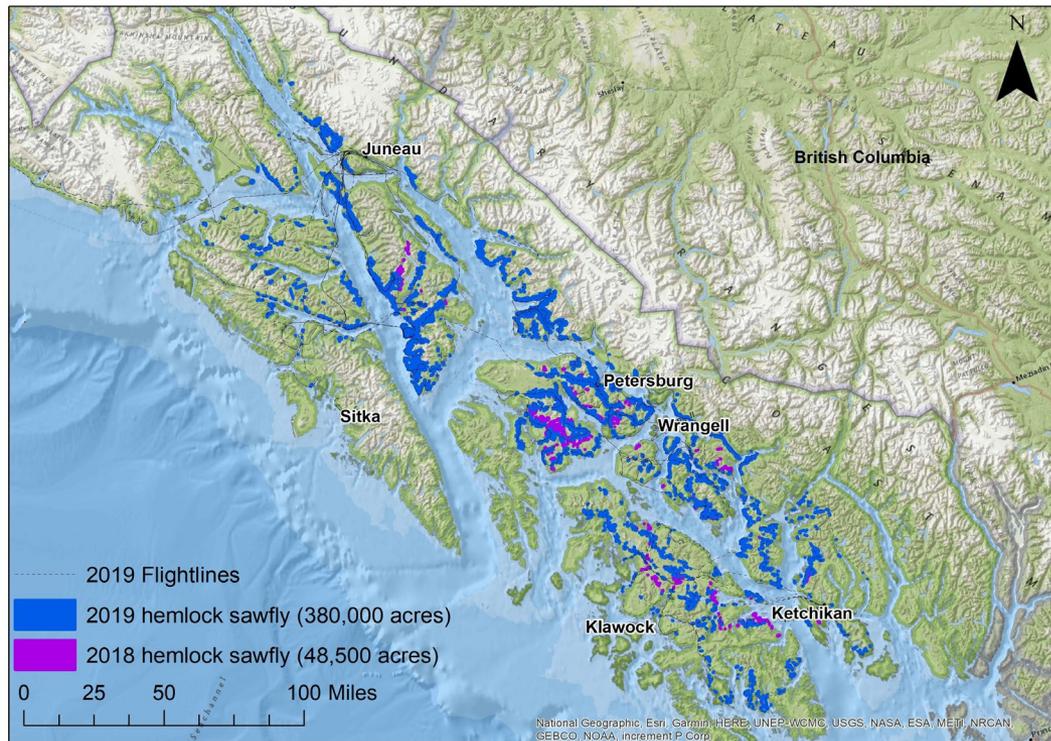
Hemlock sawfly





Hemlock sawfly

- Native to Southeast Alaska
- Outbreak began in 2018 in Southeast
- Larvae feed on older foliage
- Larval populations so great in areas frass was raining from the canopy



Hemlock sawfly

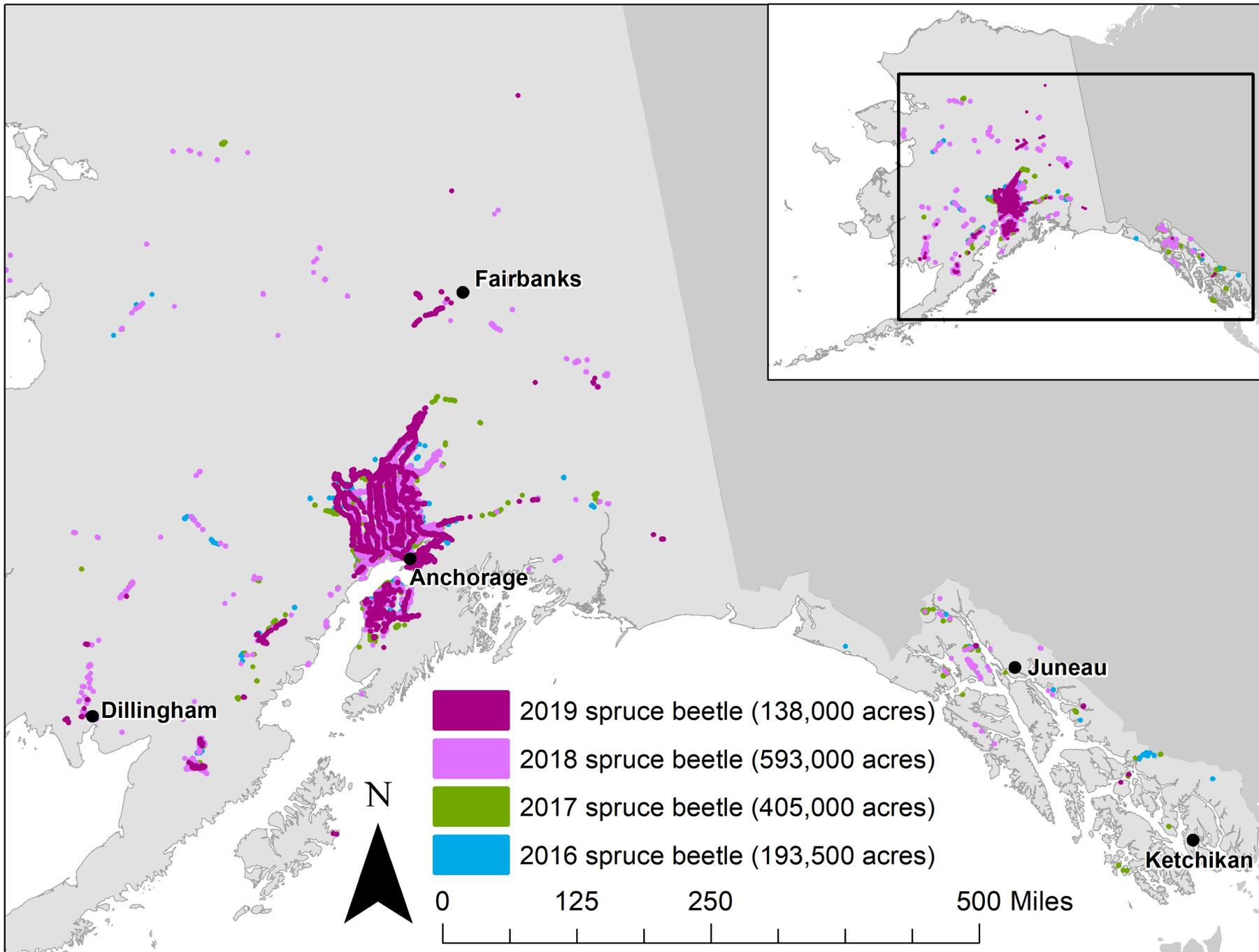


- Larval activity is down in most areas reported in 2020
- Topkill is apparent in areas with repeated and heavy defoliation
- Some trees have lost 70% of their crown
- Mortality likely to occur in some areas but should be sporadic



Spruce Beetle





Spruce beetle

- Activity is waning in the main outbreak area in Mat-Su
- Continues to be active on the Kenai Peninsula
- Lots of dead and dying trees reported in Anchorage
- Beetles still active on the edges of the outbreak



Questions:
Elizabeth.e.graham@usda.gov



Thank you!!!