



Integrated Pest Management Program



Aphids, Caterpillars, and Moths, OH MY!

March 21, 2017
LEO Network Webinar

Jessie Moan
Statewide IPM Technician
Integrated Pest Management Program
Cooperative Extension Service

Brought to you by:



*What I do at
Extension

*Spruce aphid

*Caterpillars and
Moths





Integrated Pest Management Program

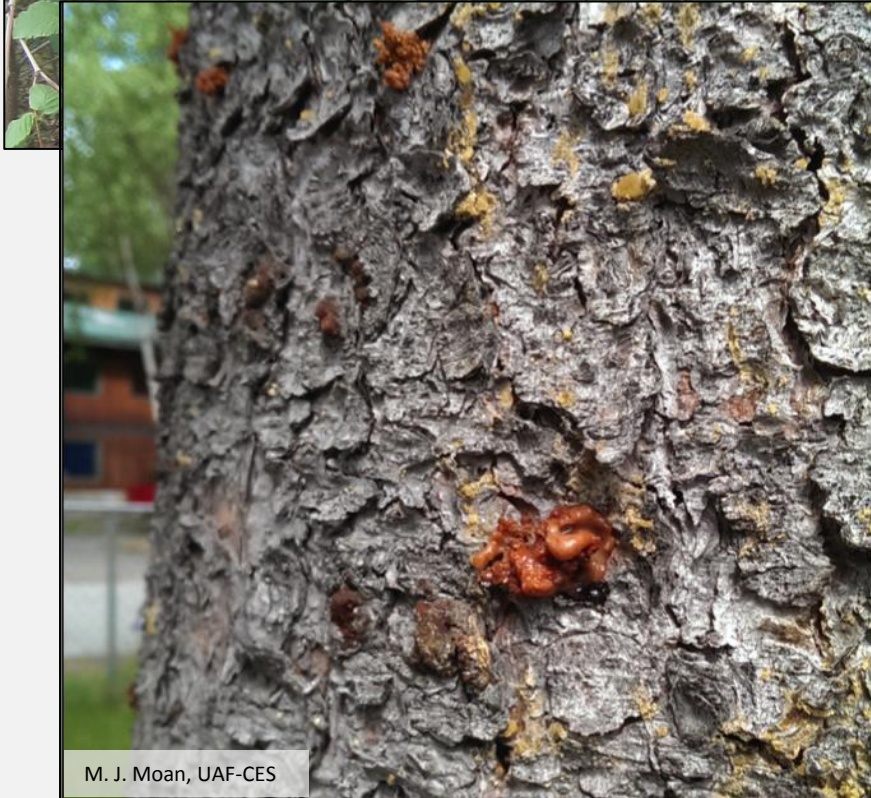
Responsibilities:

- 🌿 **Urban Tree and Forest Health**
 - 🌿 **Monitor**
 - 🌿 **Insects, Diseases, Invasive Plants**
- 🌿 **Assist clients**
 - 🌿 **Diagnose disorders**
 - 🌿 **Identify pests**
 - 🌿 **Recommend appropriate actions**

D. D. Etcheverry, UAF-CES



M. J. Moan, UAF-CES



M. J. Moan, UAF-CES



M. J. Moan, UAF-CES



Rich Capitan

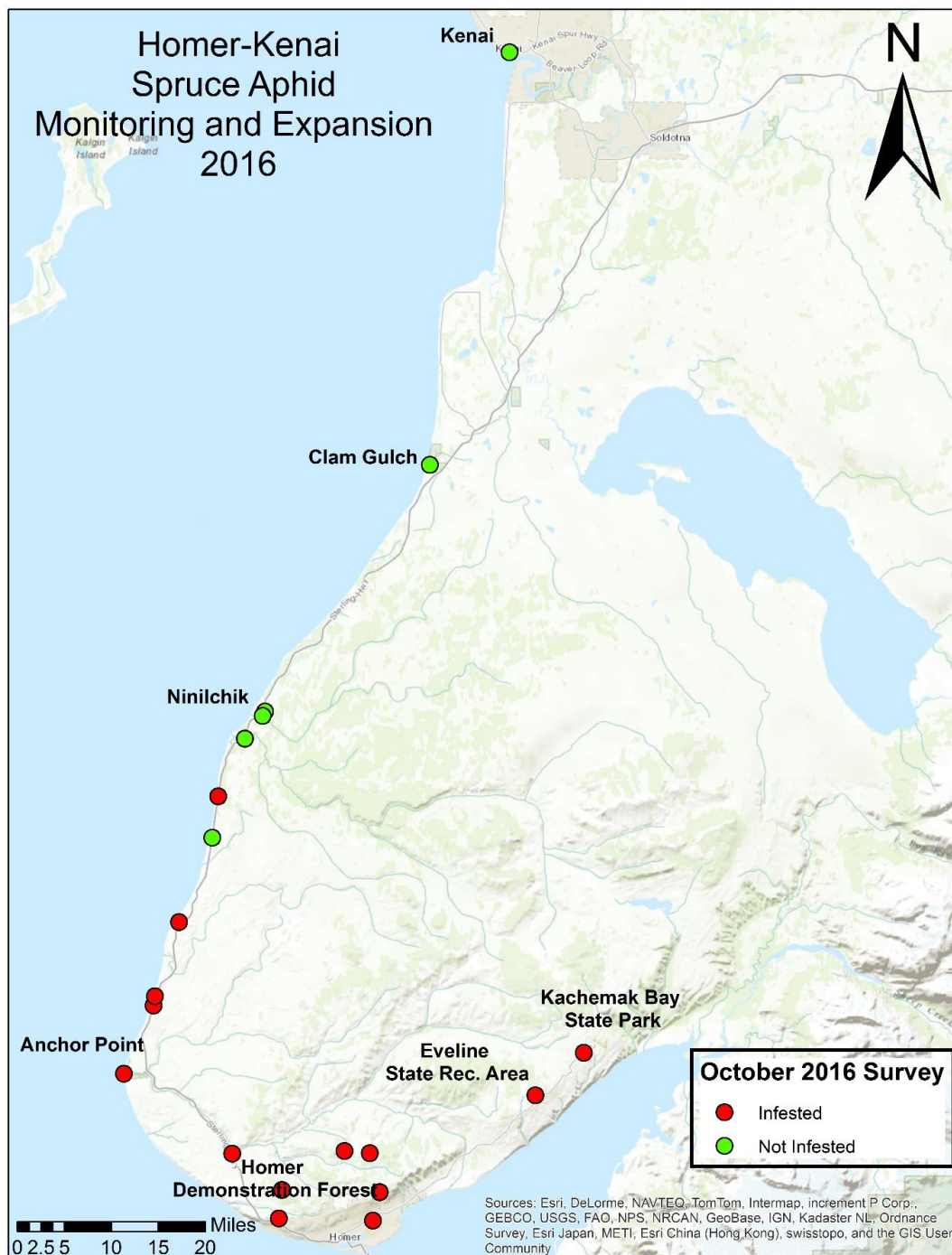
Spruce aphid, *Elatobium abietinum*



Spruce aphid

- First notable outbreak in 1967 in Sitka
- Recurring pest of Sitka spruce in Southeast
- Occasional occurrences along Prince William Sound and Kodiak archipelago
- Recently detected on western side of Kenai Peninsula

Homer-Kenai Spruce Aphid Monitoring and Expansion 2016

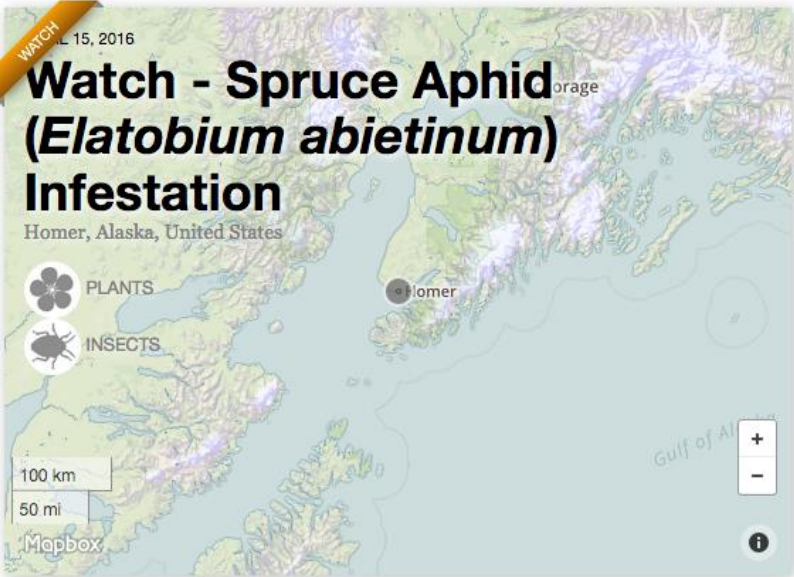


Map courtesy: Dubois, G.
and S. Swenson. 2016.
Homer Spruce Aphid
Monitoring and Expansion.
Trip Report filed October 17,
2016. R10-S&PF-FHP-2016

EXPLORE

OBSERVATIONS

WATCH - SPRUCE APHID (*ELATOBIMUM ABIETINUM*) INFESTATION



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Contributors

Consultant



Nathan Lojewski
Anchorage Alaska, Uni...

Forestry Manager
Forester
Chugachmiut

Editor



Bailey Richards
Anchorage Alaska, Uni...

AmeriCorps VISTA
Alaska Native Tribal
Health Consortium -
ANTHC

Project Description: (2016-04-15) This project includes observations about trees that may be infested by spruce aphids *Elatobium abietinum*. According to the Alaska Region [U.S. Forest Service](#) - Symptoms of spruce aphid infestation have been observed on the Kenai Peninsula. "The spruce aphid is a small green, soft-bodied insect about 1 to 1.5 mm in size. Both winged and wingless forms occur. Spruce aphids feed by inserting their needle-like mouth-parts into host foliage and sucking the sap from the needles. First symptoms of feeding are yellow patches on the needles. If the population increases, discoloration intensifies and affected needles turn brown and drop prematurely." USDA

Start Date: April 15, 2016

Project Lead: Pending

Observer Invite: In recognition of the expansion of spruce aphid in Alaska, the LEO Network is inviting observations about outbreaks of spruce aphids. Photos showing

Related Observations

📍 View on Map

🕒 Timeline

1



Spruce Aphid
(*Elatobium
abietinum*)
Damage

Nuka Passage, Kena...

2



Watch - Spruce
Aphid (*Elatobium
abietinum*)
Infestation

Homer, Alaska, Uni...

3



Spruce aphid
infestation

Kake, Alaska, Unite...
MAY 15, 2013

Spruce aphid

- Hosts:
 - Sitka spruce
 - Lutz spruce
 - White spruce*
- Feed primarily on older needles
 - Yellowing-browning
 - Needle drop
 - Reduced tree vigor; growth loss



Elizabeth Graham, USDA Forest Service, Alaska Region





Looking for spruce aphids

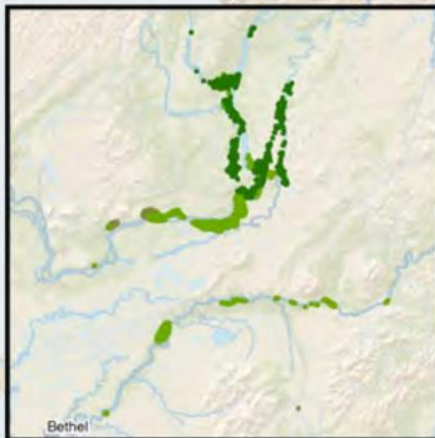
- Start mid- to late winter
- Underside of older needles
- Previously infested trees
- Monitor weekly through spring
- Check again in fall

Defoliating moths, *Orthosia* species?

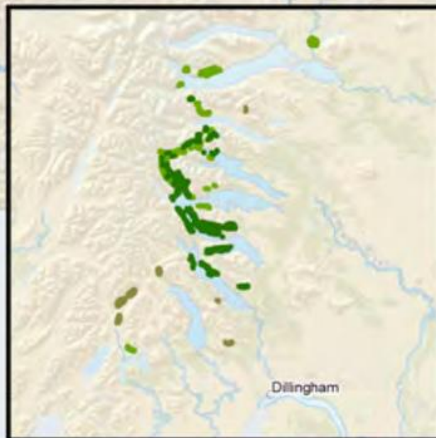


Defoliating moths

- Defoliation observed on willow, alder, and birch in 2014
- Aerial and ground surveys detected increased defoliation in 2015 and 2016
- Samples were collected for identification in 2016



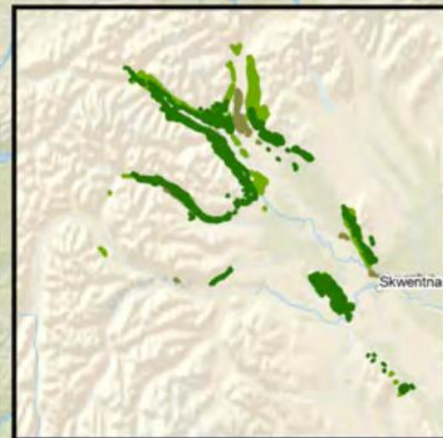
Holy Cross Area



Wood-Tikchik Area



Lake Clark National Park Area

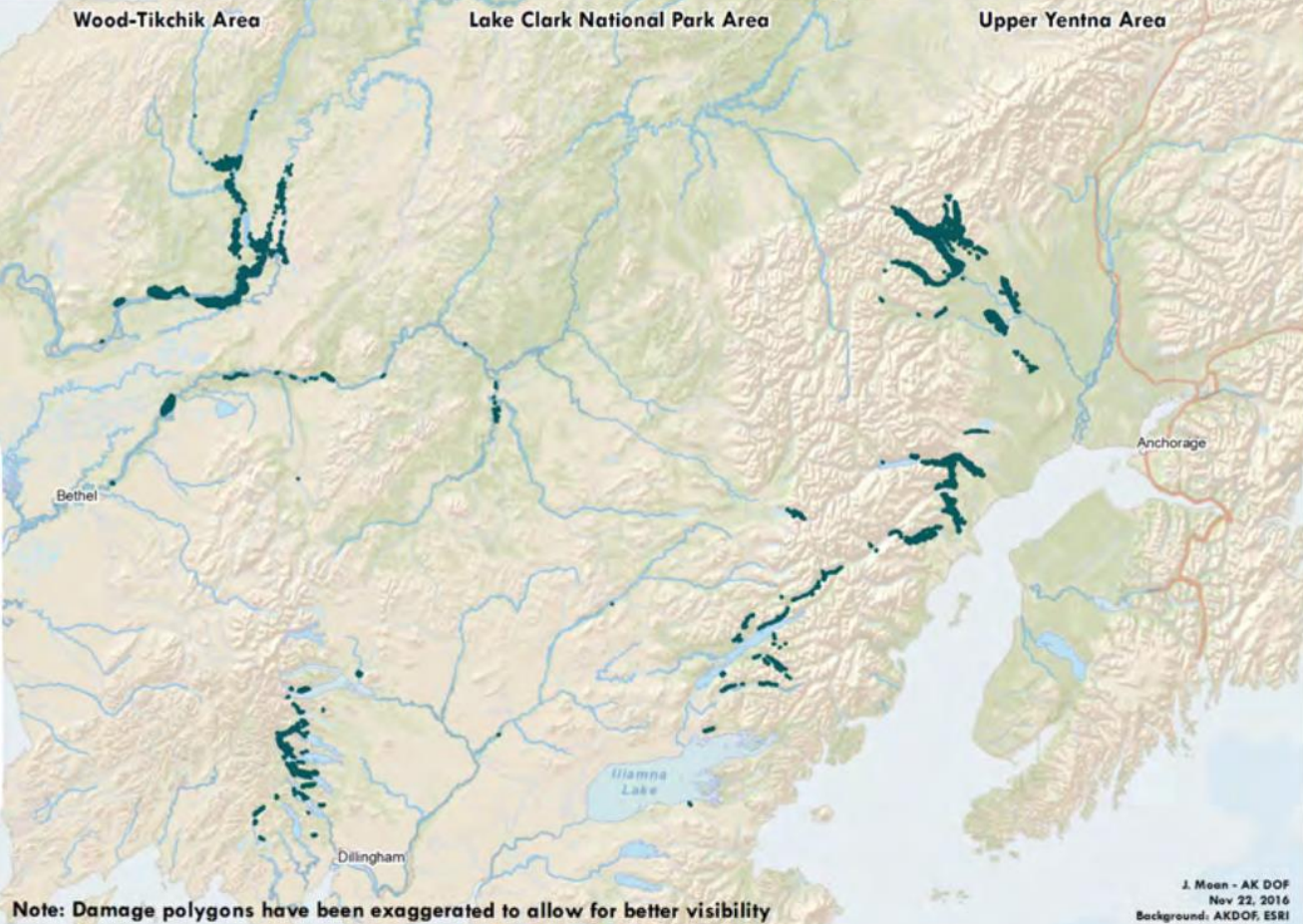


Upper Yentna Area

Confirmed* and Suspected *Orthosia hibisci*-caused defoliation



* Confirmed in parts of Lake Clark National Park and adjacent areas



Note: Damage polygons have been exaggerated to allow for better visibility

JUNE 22, 2016

Caterpillar Infestation

Holy Cross, Alaska, United States



INSECTS



OTHER



Observation: There were hundreds of caterpillars crossing the lower road going towards the tribal building and school lawn. Never saw so much in one place.

Brenda Sims, www.leonetwork.org

APRIL 30, 2016

Lots of Furry Moths

Holy Cross, Alaska, United States



INSECTS



Observation: This spring we had lots of brown furry moths, do these grow spikes before they cocoon?

Sandra Sims,
www.leonetwork.org

Defoliating moths

- Hosts:
 - Most of our native hardwood species
- Feeds on leaves
 - Observed feeding on new growth in high numbers
- Color variation in caterpillars





Looking for defoliating moths

- There are tons of moths out there – it is easiest to look for caterpillars
- Mass emergence of moths in spring
- Look for large groups of caterpillars on common hosts
- Caterpillars are active in mid-summer (Jun-Jul)

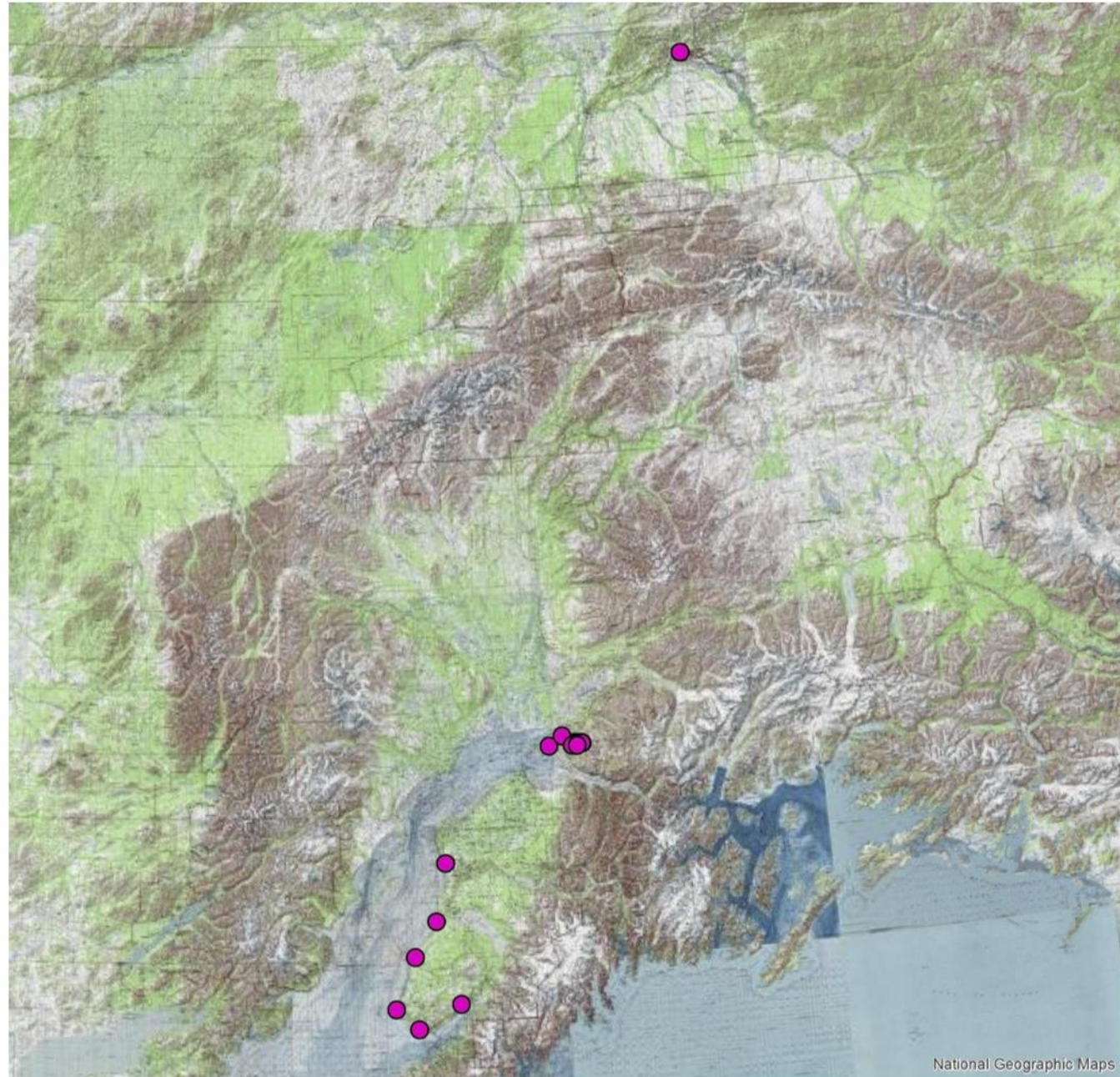
Spruce bud blight, *Gemmamyces picea*



Spruce bud blight

- First found in Homer in 2013
- Positively identified in 2016
- Currently known from several locations in Southcentral and Interior Alaska
- Has caused significant mortality in Colorado blue spruce in the Czech Republic

Statewide distribution: Anchorage, Fairbanks, Kenai



Spruce bud blight

- Hosts:
 - White spruce
 - Sitka spruce
 - Black spruce
 - Colorado blue spruce
- Affects current year's growth
 - Bud deformation
 - Bud mortality





© Thomas Lohrer



Looking for spruce bud blight

- Check tips throughout growing season
- Look for black, ball-shaped fruiting bodies
- Look for distorted growth



Questions?

Jessie Moan
786-6309
mjmoan@alaska.edu