

Southcentral Alaska Spruce Beetle Outbreak *Observations from the field*

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Outline

- Outbreak Status
- Observations over time



Outbreak Status



Photo: M. Schoofs, AKDOF



Aerial Surveys



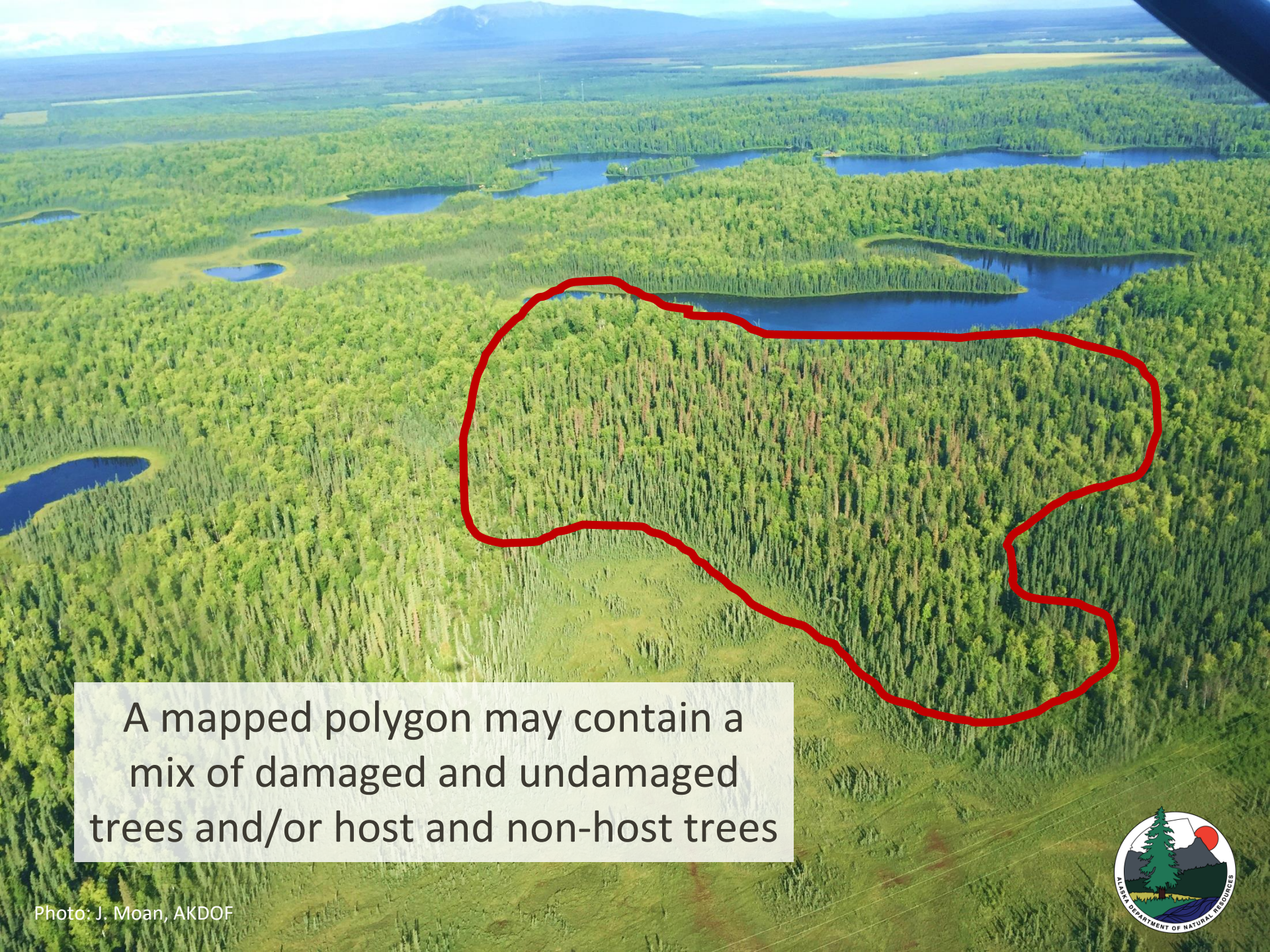
Cooperative effort between

- USDA Forest Service - Forest Health Protection
- Alaska Division of Forestry - Forest Health Program

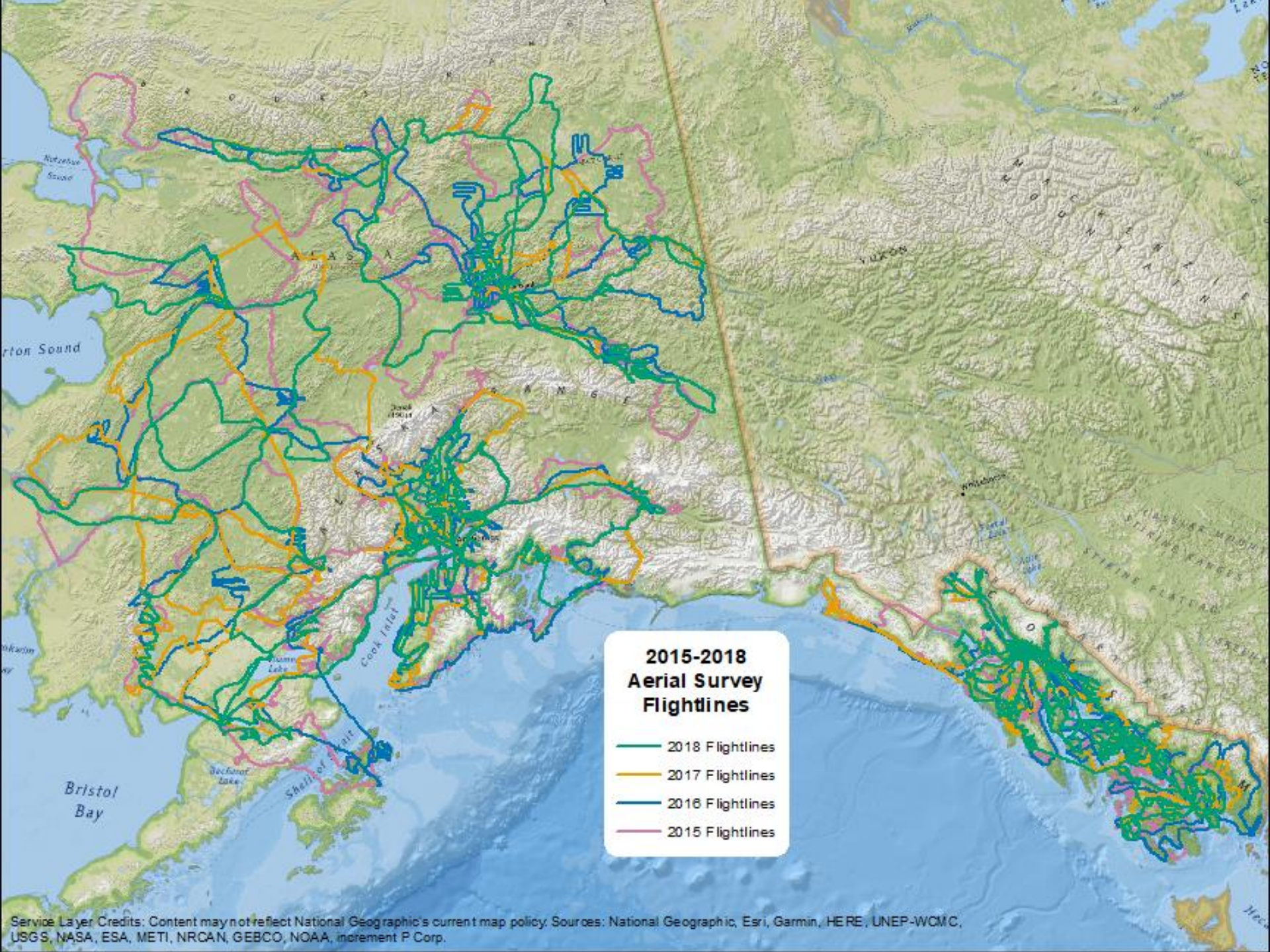


Photos: J. Moan, AKDOF

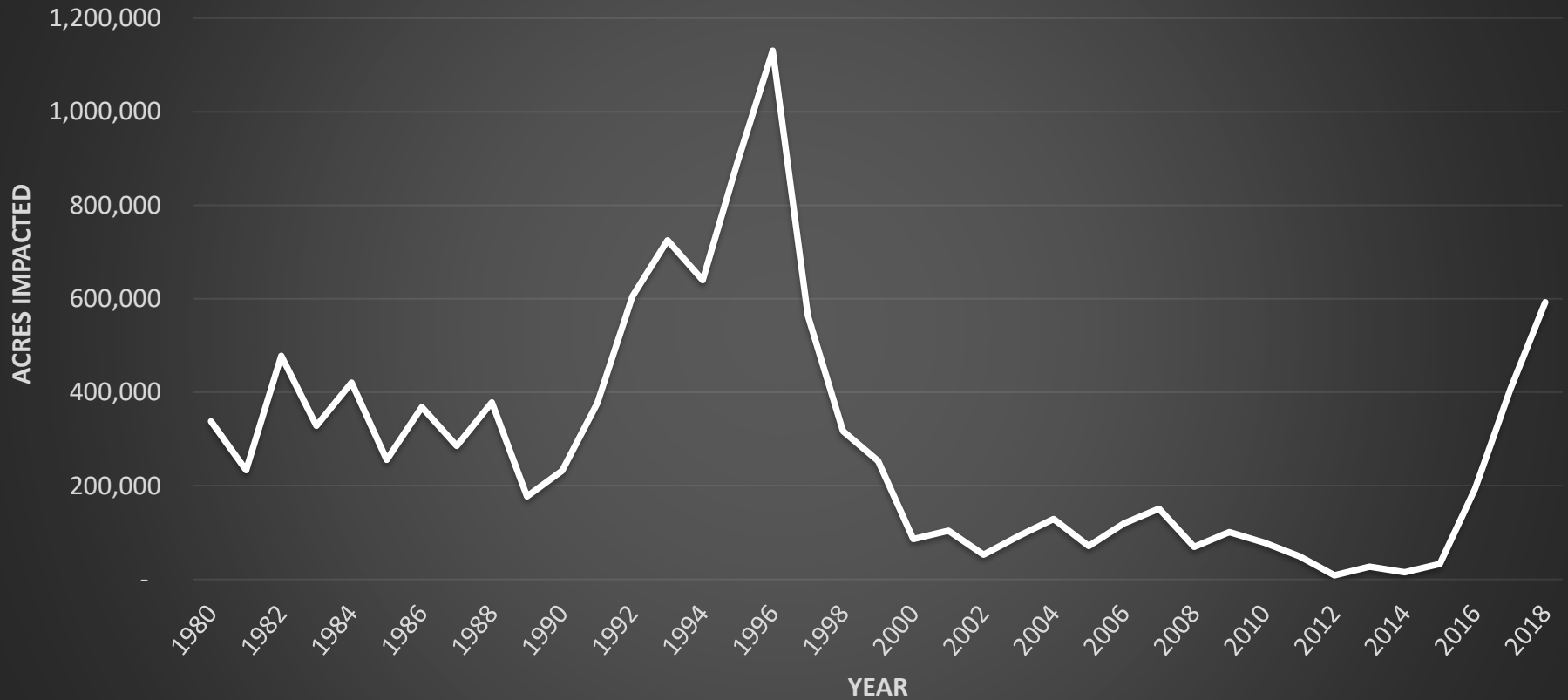


An aerial photograph of a vast forest landscape. In the center, a large, irregular area of forest is outlined with a thick red line, representing a mapped polygon. The forest appears dense and green, with some areas showing signs of damage or different tree species. Several small, dark blue ponds are scattered throughout the forest. In the background, rolling hills and mountains are visible under a clear sky.

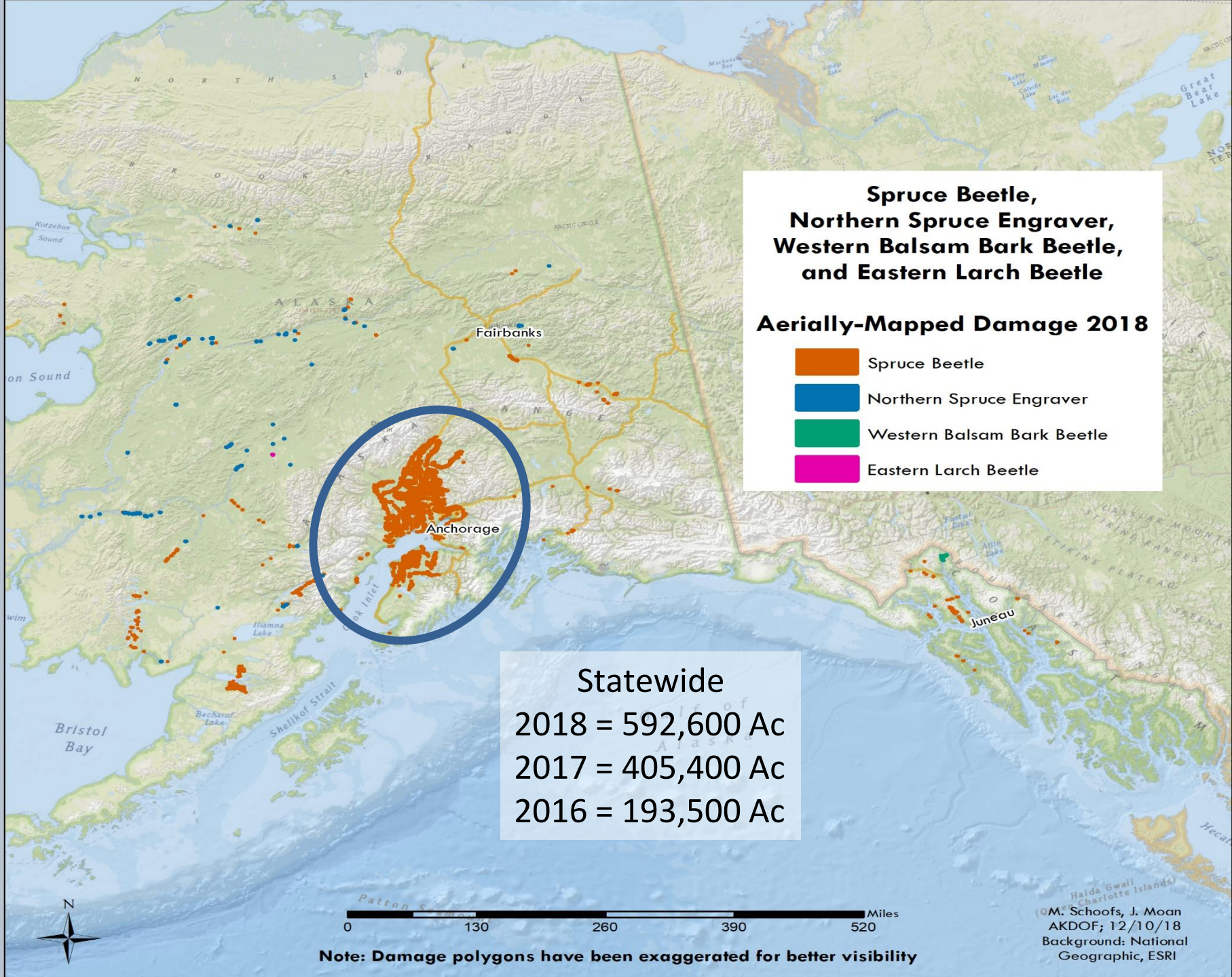
A mapped polygon may contain a mix of damaged and undamaged trees and/or host and non-host trees



Spruce beetle – Statewide acres of observed damage 1980-2018



2018 – Spruce beetle activity



2018 – Spruce beetle activity



2018 Aerially Observed
Spruce Beetle Damage



2018 = 557,000 Ac
2017 = 392,000 Ac

Data coverage:
Matanuska-Susitna Borough
Kenai Peninsula Borough
Municipality of Anchorage

0 25 50
Miles

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

Map: J. Moan
Date: 10/10/2018
Background: ESRI/Nat Geo

Cumulative Spruce beetle activity 2016-2018

2016-2018 Aerially Observed
Spruce Beetle Damage



Cumulative area
impacted 2016-2018
~915,000 acres

Data coverage:
Matanuska-Susitna Borough
Kenai Peninsula Borough
Municipality of Anchorage

0 25 50
Miles

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

Map: J. Moan
Date: 10/10/2018
Background: ESRI/Nat Geo

General Observations 2014-2018

Photo: M. Schoofs, AKDOF



2014 Aerially Observed Spruce Beetle Damage

2014 Flightlines

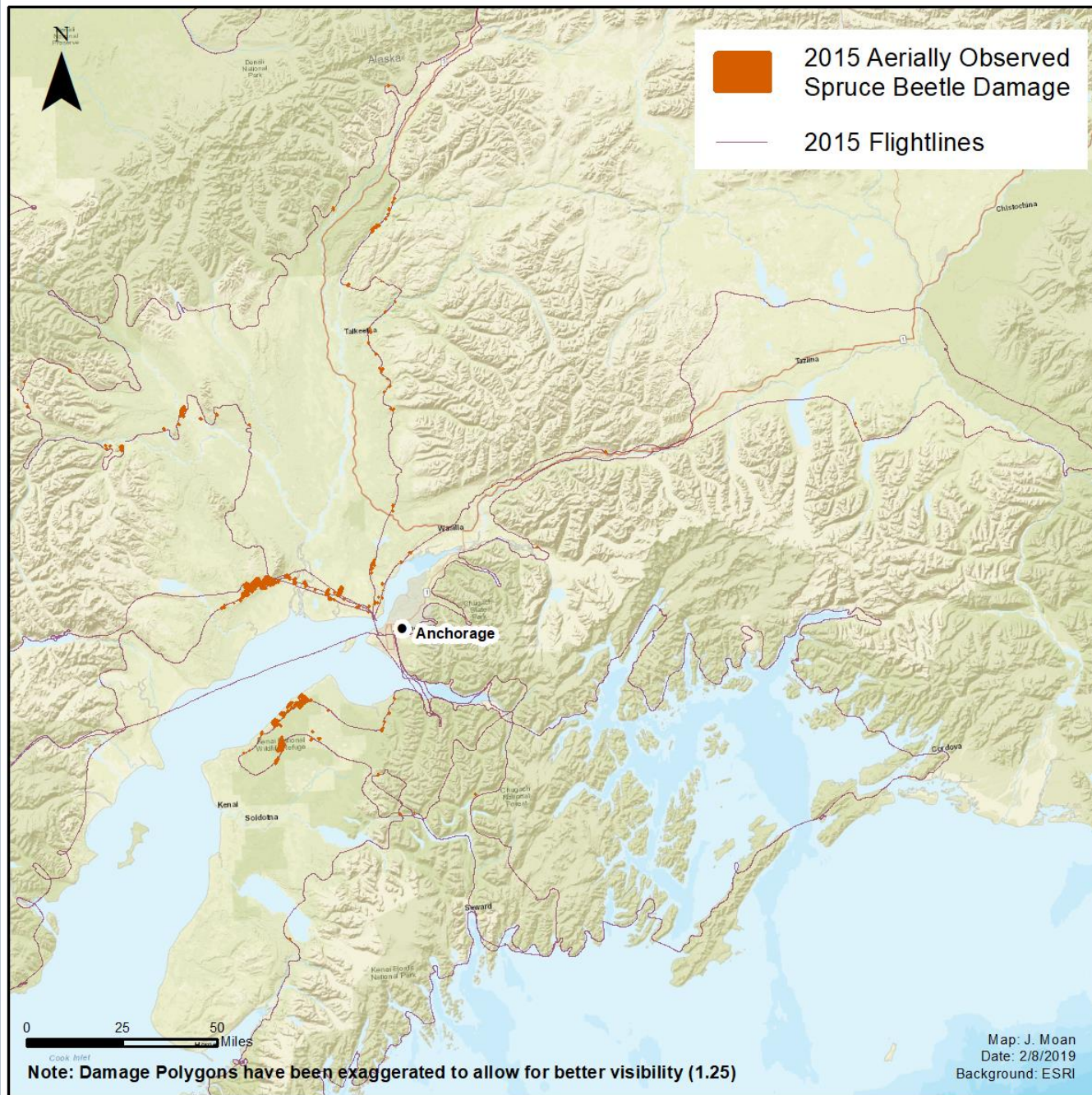
0 25 50 Miles

Note: Damage Polygons have been exaggerated to allow for better visibility (1.25)

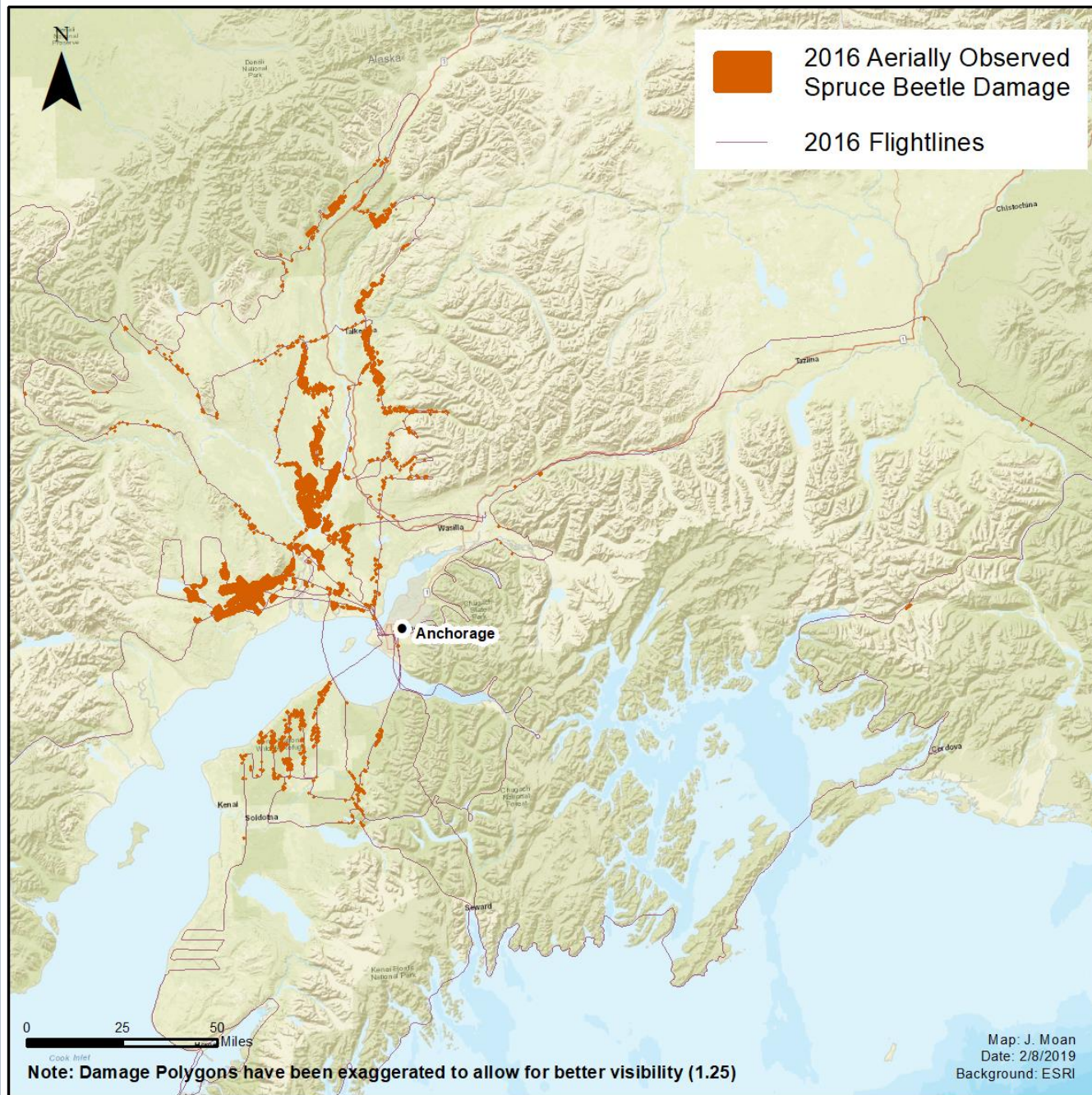
Map: J. Moan
Date: 2/8/2019
Background: ESRI



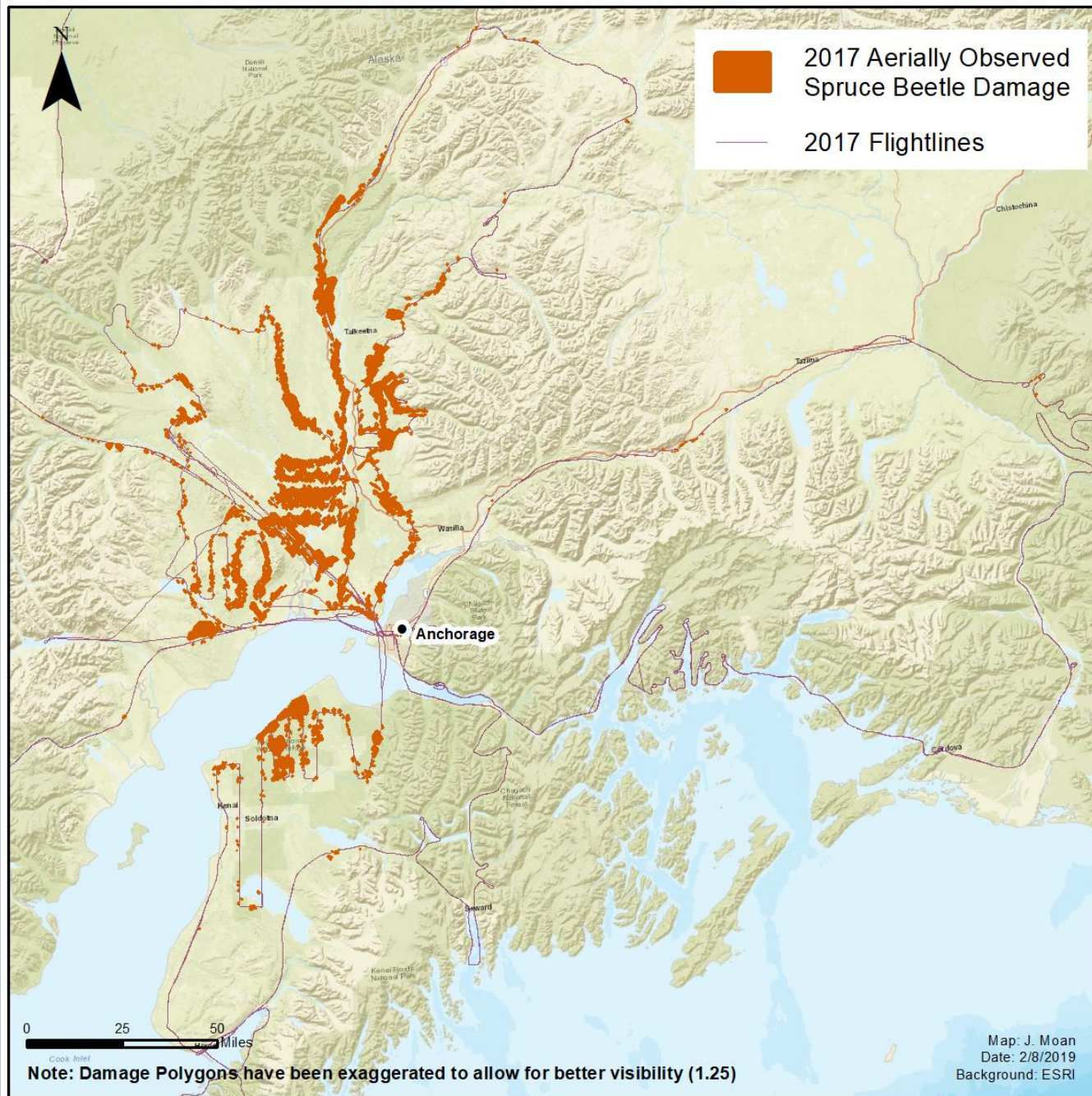
General Observations 2015



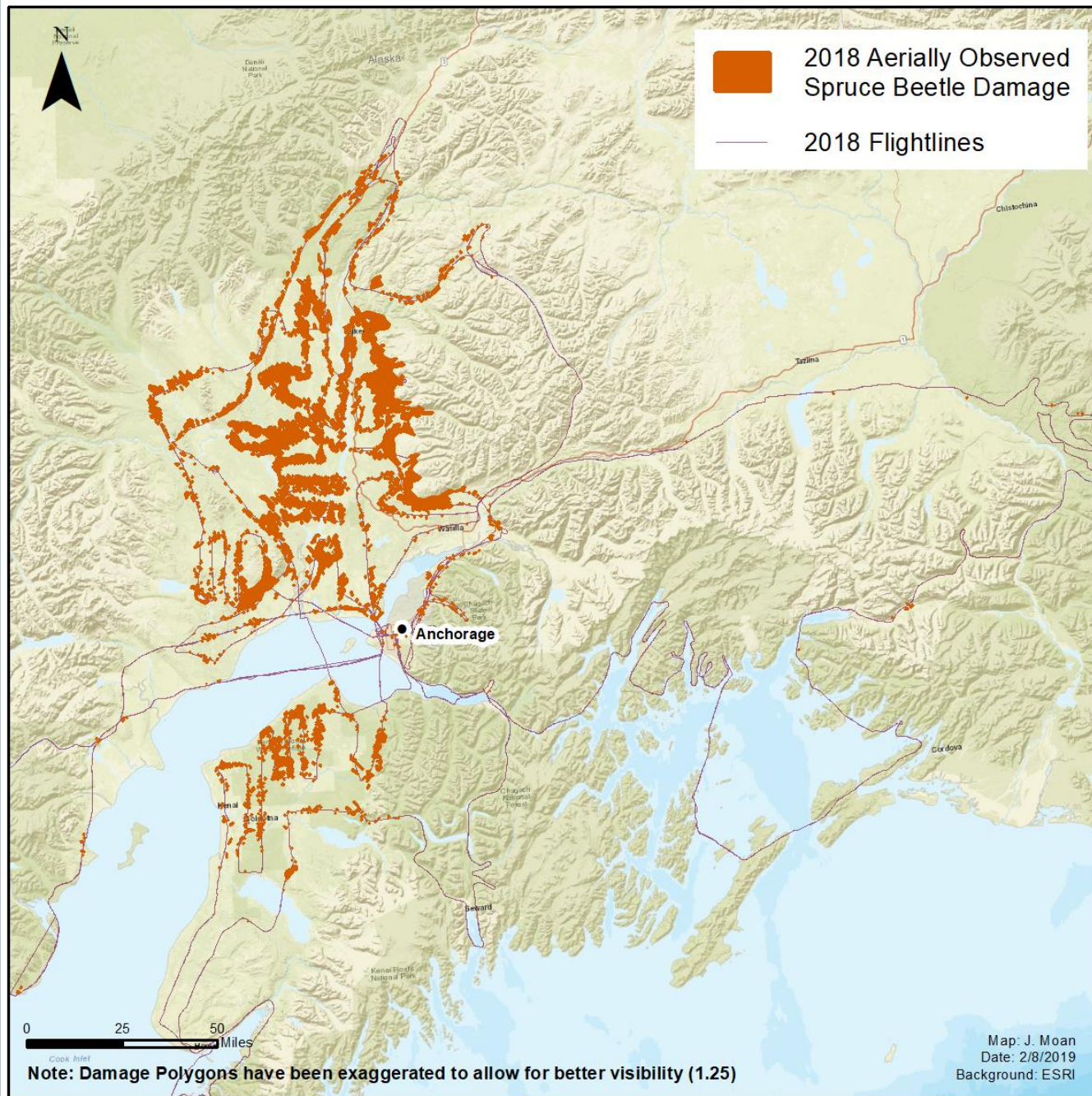
General Observations 2016



General Observations 2017



General Observations 2018



General Observations 2014 & 2015

- Occasional spruce beetle calls, 5-10/year
- Spruce beetle-caused tree mortality scattered
 - Generalist defoliators in outbreak 2014
 - Spruce aphid in outbreak 2015

General Observations 2016

- Damage extensive in MatSu & NW Kenai
- Disbelief among some
- Primarily large diameter white/Lutz spruce being attacked

Spruce beetle damage along Susitna River 2016

J. Moan, AKDOF



General Observations 2017

- Continued extensive damage in region
- Progressively smaller diameter white/Lutz spruce being attacked
- Nearly 2,100 acres of spruce beetle-caused black spruce mortality observed, adjacent to impacted white spruce forests
- Off-host attacks reported in MatSu, Anchorage, Kenai

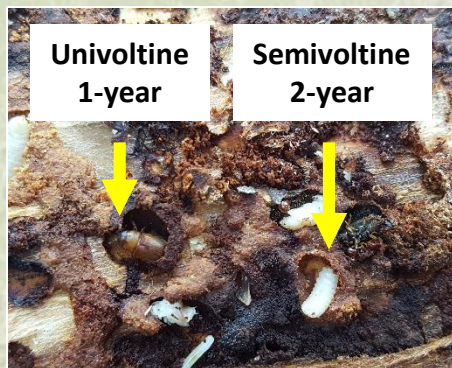


General Observations 2018

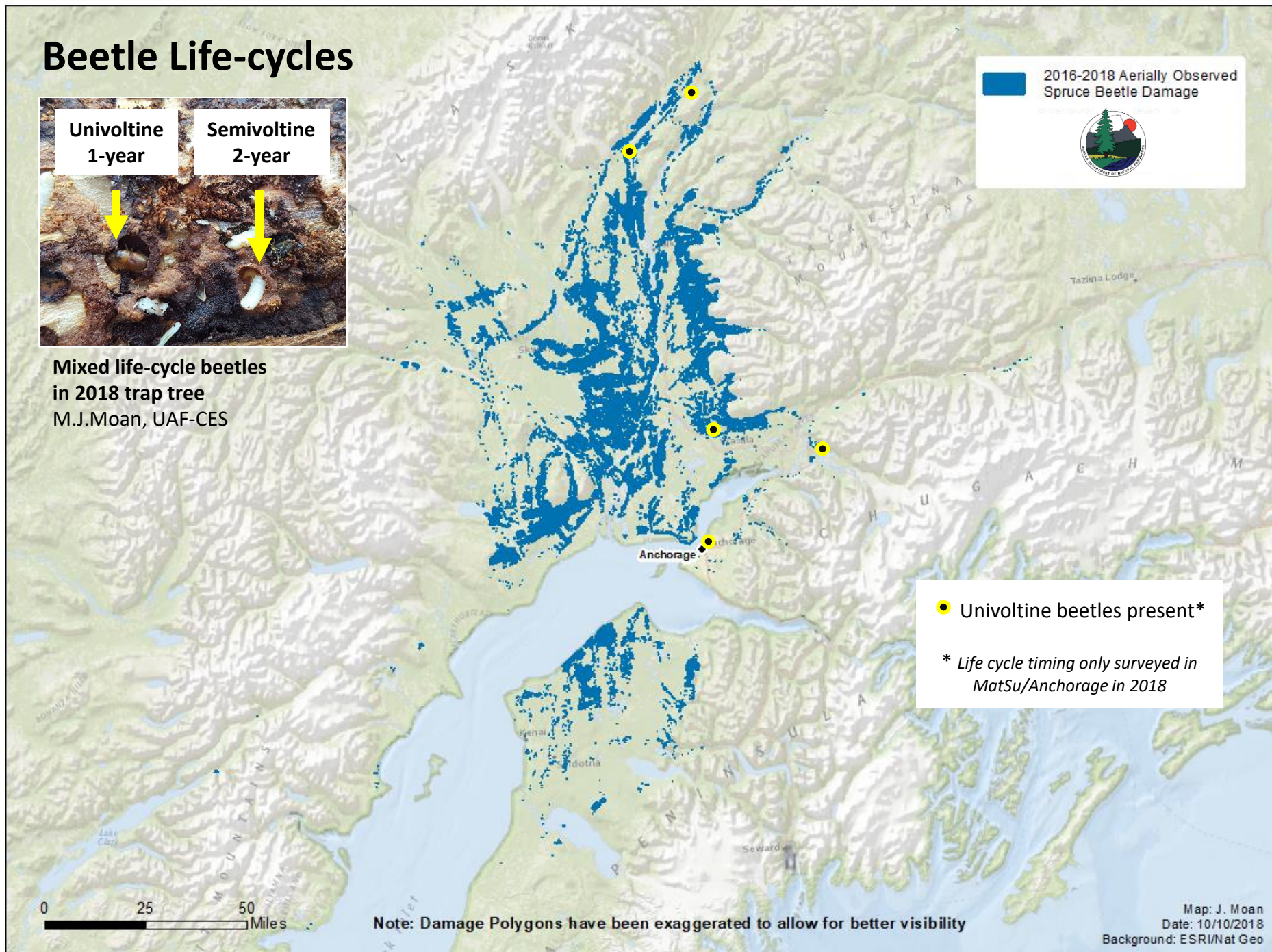
- Continued extensive damage in region; increasing activity in eastern MatSu & northern Anchorage Municipality
- White/Lutz spruce to 5-6 inch diameter being attacked
- Spruce beetle-caused black spruce mortality often observed near impacted white spruce forests
- Off-host attacks continue
- Univoltine beetles confirmed in MatSu, mixed with semivoltine



Beetle Life-cycles



Mixed life-cycle beetles
in 2018 trap tree
M.J.Moan, UAF-CES



Off-host attacks



No mortality observed to date

Siberian larch 2017

Scots pine 2017

Off-host attacks

Live beetle boring into base of tree
Collected Oct 17, 2018

Jack pine? 2018
Beetle ID *Pending*



www.Alaskasprucebeetle.org

Spruce Beetle in Alaska's Forests

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**Program
funding
provided by**

