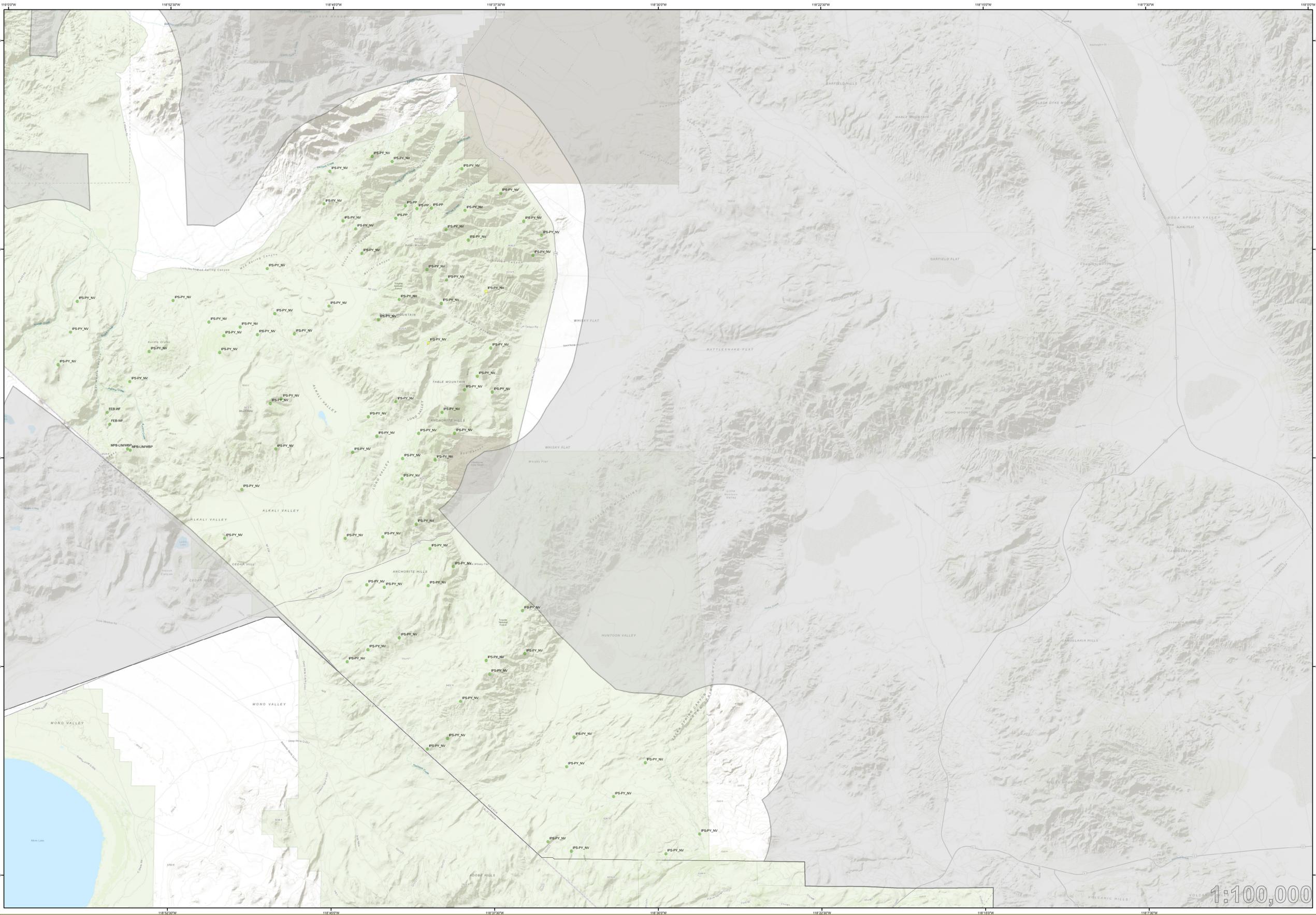


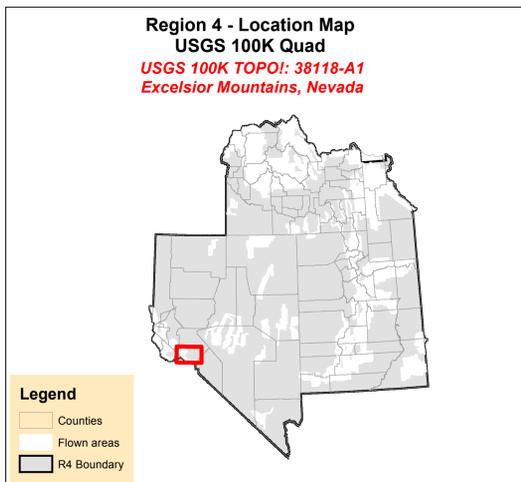
# 2019 Aerial Insect and Disease Survey Excelsior Mountains, Nevada



| Legend                                                                                                                                                                                                                                                                            |                                                                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| <b>Damage Points</b>                                                                                                                                                                                                                                                              |                                                                                                                |
| <b>Number of Trees</b>                                                                                                                                                                                                                                                            |                                                                                                                |
| ● 1 - 5                                                                                                                                                                                                                                                                           |                                                                                                                |
| ● 6 - 30                                                                                                                                                                                                                                                                          |                                                                                                                |
| ● > 30                                                                                                                                                                                                                                                                            |                                                                                                                |
| <b>Damage Polygons</b>                                                                                                                                                                                                                                                            |                                                                                                                |
| Light (1-10%)                                                                                                                                                                                                                                                                     |                                                                                                                |
| Moderate (11-50%)                                                                                                                                                                                                                                                                 |                                                                                                                |
| Severe (>50%)                                                                                                                                                                                                                                                                     |                                                                                                                |
| Not flown                                                                                                                                                                                                                                                                         |                                                                                                                |
| Fire Perimeters (2016 - 2018)                                                                                                                                                                                                                                                     |                                                                                                                |
| <b>CODING SYSTEM</b>                                                                                                                                                                                                                                                              |                                                                                                                |
| Codes have two parts: the first represents the causal agent and the second represents the host. If needed, the two-part code is followed by an 'M' or 'H' to indicate severity of the activity. Data is color coded to represent the intensity of activity as seen in the legend. |                                                                                                                |
| Examples:                                                                                                                                                                                                                                                                         |                                                                                                                |
| MPB-LPP                                                                                                                                                                                                                                                                           | represents mountain pine beetle in Lodgepole pine.                                                             |
| WSB-DF/SAF-H                                                                                                                                                                                                                                                                      | represents western spruce budworm infestation in subalpine fir/Douglas-fir mix with >75% of leaves defoliated. |

| Causal Agent Codes  |                                 |
|---------------------|---------------------------------|
| <b>ASP Defol</b>    | Aspen Defoliation               |
| <b>ASP Diebck</b>   | Aspen Dieback                   |
| <b>ASP Mort</b>     | Aspen Mortality                 |
| <b>Avntrch</b>      | Aviantrich                      |
| <b>Drght</b>        | Drought                         |
| <b>Flood</b>        | Flooding-high water             |
| <b>Lnd Slid</b>     | Land Slide                      |
| <b>Bark Beetles</b> |                                 |
| <b>DFB</b>          | Douglas-fir beetle              |
| <b>ESB</b>          | Engelmann Spruce beetle         |
| <b>FEB</b>          | Fir engraver beetle             |
| <b>IPS</b>          | Pine engraver beetle            |
| <b>Jeffrey PB</b>   | Jeffrey Pine Beetle             |
| <b>MPS</b>          | Mountain pine beetle            |
| <b>RndHd PB</b>     | Roundhead Pine Beetle           |
| <b>WPB</b>          | Western pine beetle             |
| <b>Defoliators</b>  |                                 |
| <b>BWA</b>          | Balsam woolly adelgid           |
| <b>DFTM</b>         | Douglas-fir Tussock Moth        |
| <b>FCW</b>          | Fall Cankerworm                 |
| <b>FTC</b>          | Forest Tent Caterpillar         |
| <b>Marssonina</b>   | Marssonina                      |
| <b>Satin_Moth</b>   | Satin Moth                      |
| <b>WSB</b>          | Western Spruce Budworm          |
| <b>WtentCat</b>     | Western Tent Caterpillar        |
| <b>Disease</b>      |                                 |
| <b>Blck Pleaf</b>   | Black Pineleaf                  |
| <b>Lopho</b>        | Lophodermella needle cast (LPP) |
| <b>Sd</b>           | Scale                           |
| <b>SAF Decl</b>     | Sub Alpine Fir Decline          |
| <b>WPR</b>          | White pine blister rust         |

| Host Codes           |                                                       |
|----------------------|-------------------------------------------------------|
| <b>ASP</b>           | Aspen                                                 |
| <b>COT</b>           | Cottonwood                                            |
| <b>DF</b>            | Douglas-fir                                           |
| <b>GF</b>            | Grand fir                                             |
| <b>HWD</b>           | Hardwood                                              |
| <b>JFFrey P</b>      | Jeffrey pine                                          |
| <b>JUN</b>           | Juniper                                               |
| <b>LJM/WBP</b>       | Limbier pine / Whitebark pine                         |
| <b>LP</b>            | Lodgepole pine                                        |
| <b>OAK</b>           | Oak                                                   |
| <b>PP</b>            | Ponderosa pine                                        |
| <b>PY</b>            | Pinon                                                 |
| <b>RF</b>            | Red Fir                                               |
| <b>SAF</b>           | Subalpine fir                                         |
| <b>WF</b>            | Western larch                                         |
| <b>WIL</b>           | Willow                                                |
| <b>Miscellaneous</b> |                                                       |
| <b>Defol</b>         | Defoliation                                           |
| <b>M</b>             | De-foliation - Moderate (50-75% of leaves defoliated) |
| <b>H</b>             | De-foliation - Heavy (>75% of leaves defoliated)      |
| <b>Disc</b>          | Discoloration                                         |
| <b>Flag</b>          | Flagging                                              |
| <b>INV</b>           | Nevada                                                |
| <b>Rust</b>          | Rust                                                  |
| <b>TK</b>            | Top kill                                              |
| <b>UT</b>            | Utah                                                  |



**HOW THE AERIAL SURVEYS ARE CONDUCTED**

Data represented on this map are based on trees visibly affected by forest insects, diseases and abiotic factors that are detected and recorded by observers during aerial survey flights. These flights are conducted by a joint partnership between the USDA Forest Service and state cooperators.

Observers have just a few seconds to recognize characteristic signatures of healthy and damaged trees of different species, correctly diagnose damage causal agents, estimate the intensity or extent of damage, and precisely record information on a digital sketch mapping platform. Air turbulence, cloud shadow, haze, smoke, and observer experience can affect the quality of the survey. These sketchmaps and the resultant data summaries provide an estimate of conditions on the ground, and may differ from estimates derived by other methods.

Annual aerial surveys provide important information on the current status of detected causal agents and can be used to determine trends in damage levels over time by comparing previous and current survey data over large areas.

**Map Created: 2/4/2020**  
**Projection: UTM NAD83 Zone 11S**  
**Author: R1/R4 FHP GIS, USDA Forest Service**

**DIRECT ALL INQUIRIES TO:**

**USDA FOREST SERVICE REGION 1**  
State and Private Forestry  
Forest Health Protection  
26 Fort Missoula Road  
Missoula, MT 59804

**USDA FOREST SERVICE REGION 4**  
State and Private Forestry  
Forest Health Protection  
1249 S. Vinnell Way, Suite 200  
Boise, ID 83709

**DISCLAIMER**

The digital map layer upon which the insect and disease data are presented vary in both source and scale, therefore, accuracy is not guaranteed.

The insect and disease data should be used only as an indicator of insect and disease activity, and should be ground-truthed for actual location and causal agent. Polygons indicate locations of tree mortality, defoliation, and/or other damage. Intensity of damage is variable, and not all trees and areas indicated are dead or damaged. The joint cooperators reserve the right to correct, modify, update, or replace the data as necessary. Using this data for purposes other than those for which it was intended may yield inaccurate or misleading results.