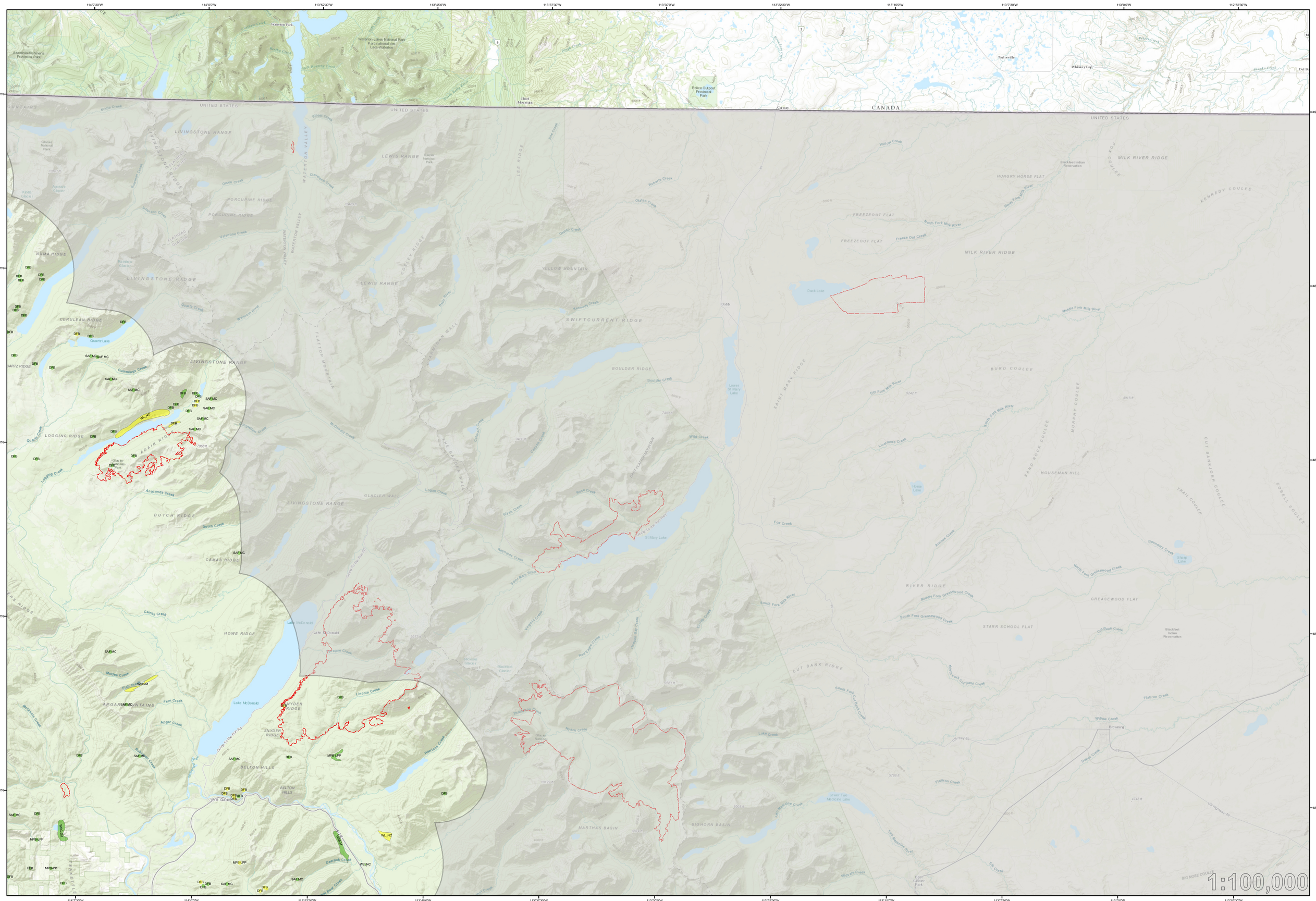
2017 Aerial Insect and Disease Survey
Saint Mary, Montana



Legend

- Not flown
- Fire Perimeters (2015 - 2017)

Damage Points

Number of Trees

- 1-5
- 6-30
- >30

Damage Polygons

Percent Affected

- Light (1-10%)
- Moderate (11-50%)
- Severe (>50%)

CODING SYSTEM

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.

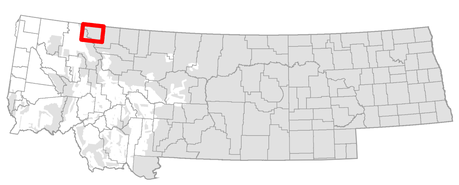
Examples:
MPB-LPP represents mountain pine beetle in Lodgepole pine.
WSB-DF/SAF-H represents western spruce budworm infestation in subalpine fir/Douglas-fir mix with >75% of leaves defoliated.

Bark Beetles	
DFB	Douglas-fir beetle
ESB	Engelmann Spruce beetle
FEB	Fir engraver beetle (GF)
IPS	Pine engraver beetle
MPB	Mountain pine beetle
WPB	Western pine beetle (PP)
Defoliators	
BWA	Balsam wooly adelgid (SAF)
Larch Saw	Larch sawfly
WSB	Western spruce budworm (DF/SAF)
Abiotic	
ASP Decline	Aspen Decline
ASP Dieback	Aspen Dieback
Drt	Drought
Flood	Flooding-high water
SnowBrk	Snow/Ice
Wind-All	Wind-tornado
Disease	
SAF MC	SAF mortality complex
WL_NC	Needle cast
WPBR	White pine blister rust

Species Codes	
ASP	Aspen
DF	Douglas-fir
ES	Engelmann spruce
GF	Grand fir
Larch	Western larch
LIM	Limber pine
LPP	Lodgepole pine
PP	Ponderosa pine
SAF	Subalpine fir
WBP	Whitebark pine
WRC	Western redcedar
WWP	Western white pine
Miscellaneous	
H	Defoliation - Heavy (> 75% of leaves defoliated)
M	Defoliation - Moderate (50-75% of leaves defoliated)
TpK	Top kill
FLAG	Flagging
MORT	Mortality

Region 1 - Location Map
USGS 100K Quad

USGS 100K TOPO!: 48113-E1
Saint Mary, Montana



Legend

- Counties
- Flown
- R1 Boundary

HOW THE AERIAL SURVEYS ARE CONDUCTED

Data represented on this map are based on trees visibly affected by forest insects and diseases which 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 the color difference between healthy and damaged trees of different species, diagnose causal agent correctly, estimate the intensity or extent of damage, and precisely record information on a map. 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.

Aerial surveys conducted annually provide information on the current status of some causal agents, and is important in examining insect activity trends by comparing previous and current survey data over large areas.

Map Created: 2/8/2018
Projection: UTM NAD83 Zone 12U
Author: R1/R4 FHP GIS, USDA Forest Service

A data dictionary and digital copies of this map and the insect and disease data are available at: https://www.fs.usda.gov/detail/r1/forest-grasslandhealth/?cid=stelprdb5285985

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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.