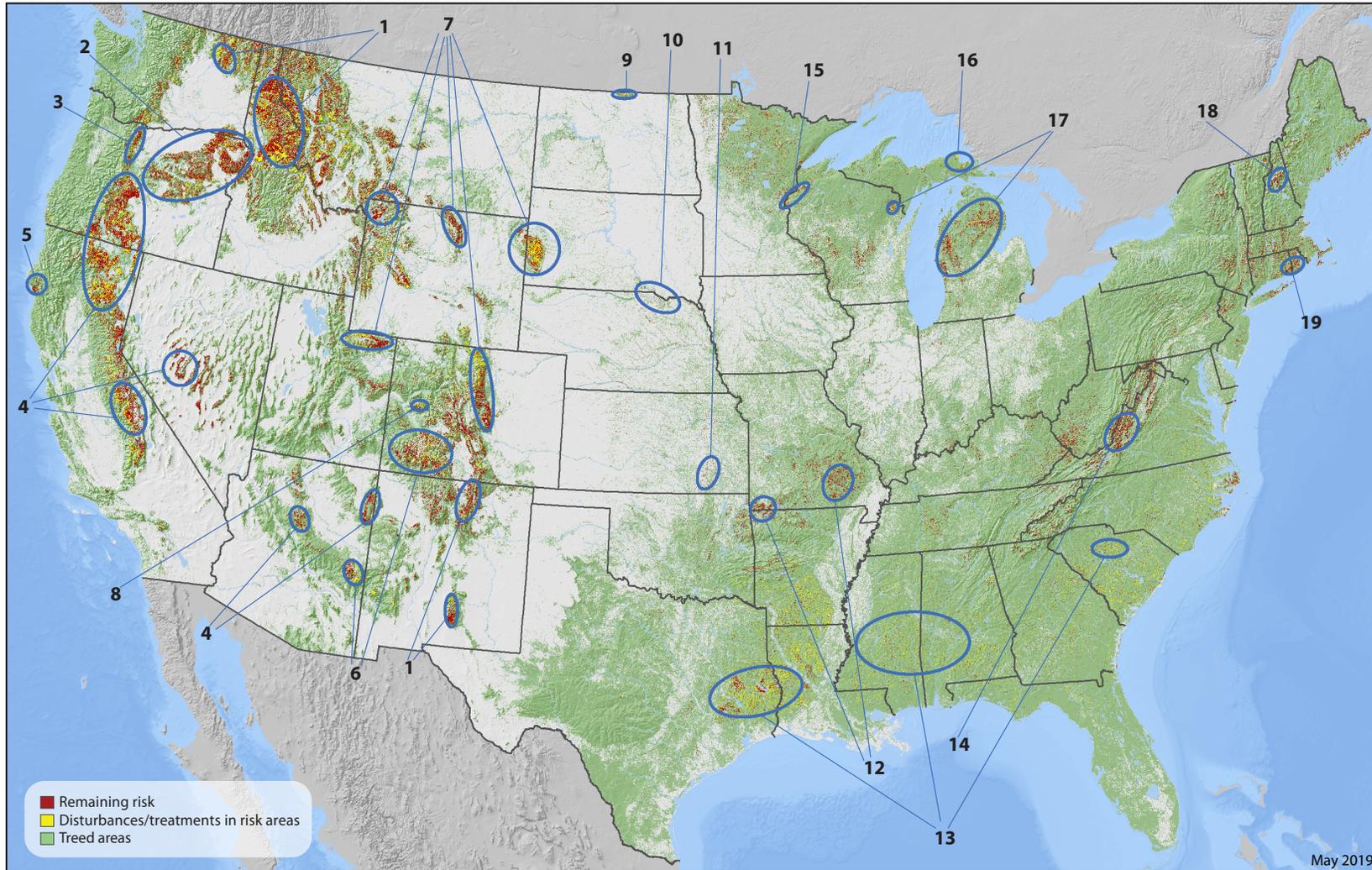


MAJOR RISK* AGENTS CONTRIBUTING TO THE NATIONAL INSECT AND DISEASE RISK MAP (2018 UPDATE)

ACRES IN HAZARDOUS CONDITION: APPROXIMATELY 53.1 MILLION



NO.	RISK AGENTS
1	Root disease, western pine beetles
2	Conifer defoliators, balsam woolly adelgid
3	Root disease, conifer defoliators, western pine beetles
4	Western pine beetles
5	Sudden oak death
6	Root disease, western pine beetles
7	Western pine beetles
8	Western pine beetles, conifer defoliators
9	Deciduous defoliators, aspen/cottonwood decline, emerald ash borer
10	Aspen/cottonwood/oak decline, emerald ash borer
11	Dutch elm disease, oak decline
12	Oak decline
13	Southern pine beetle, root disease**
14	Oak decline
15	Conifer defoliators, oak decline
16	Conifer defoliators, maple decline, beech bark disease
17	Oak decline, conifer defoliators
18	Conifer defoliators, beech bark disease, maple decline
19	Gypsy moth/oak decline, root disease

**Southern pine beetle risk is significantly underestimated and will be addressed in the next full risk map update.

The 2012 National Insect Disease and Risk Map (NIDRM) provides a nationwide strategic assessment of the hazard of tree mortality due to insects and diseases through 2027. However, since 2012, significant tree mortality events from fire, forest pest outbreaks, and broad scale forest harvesting operations have reduced or, in some cases, eliminated hazard. For the 2018 NIDRM update, we adjusted the base 2012 NIDRM by subtracting major disturbance events, thus accounting for reductions in hazard due to previous and ongoing tree mortality. The update does not account for increases in hazard due to tree growth, which can make additional trees susceptible and vulnerable to new forest pest attacks. Also, the update does not account for new pests on the landscape, such as the flatheaded fir borer.

*Risk, or more appropriately termed hazard, is defined as: the expectation that, without remediation, at least 25% of standing live basal area greater than one inch in diameter will die over a 15-year time frame (2013 to 2027) due to insects and diseases.