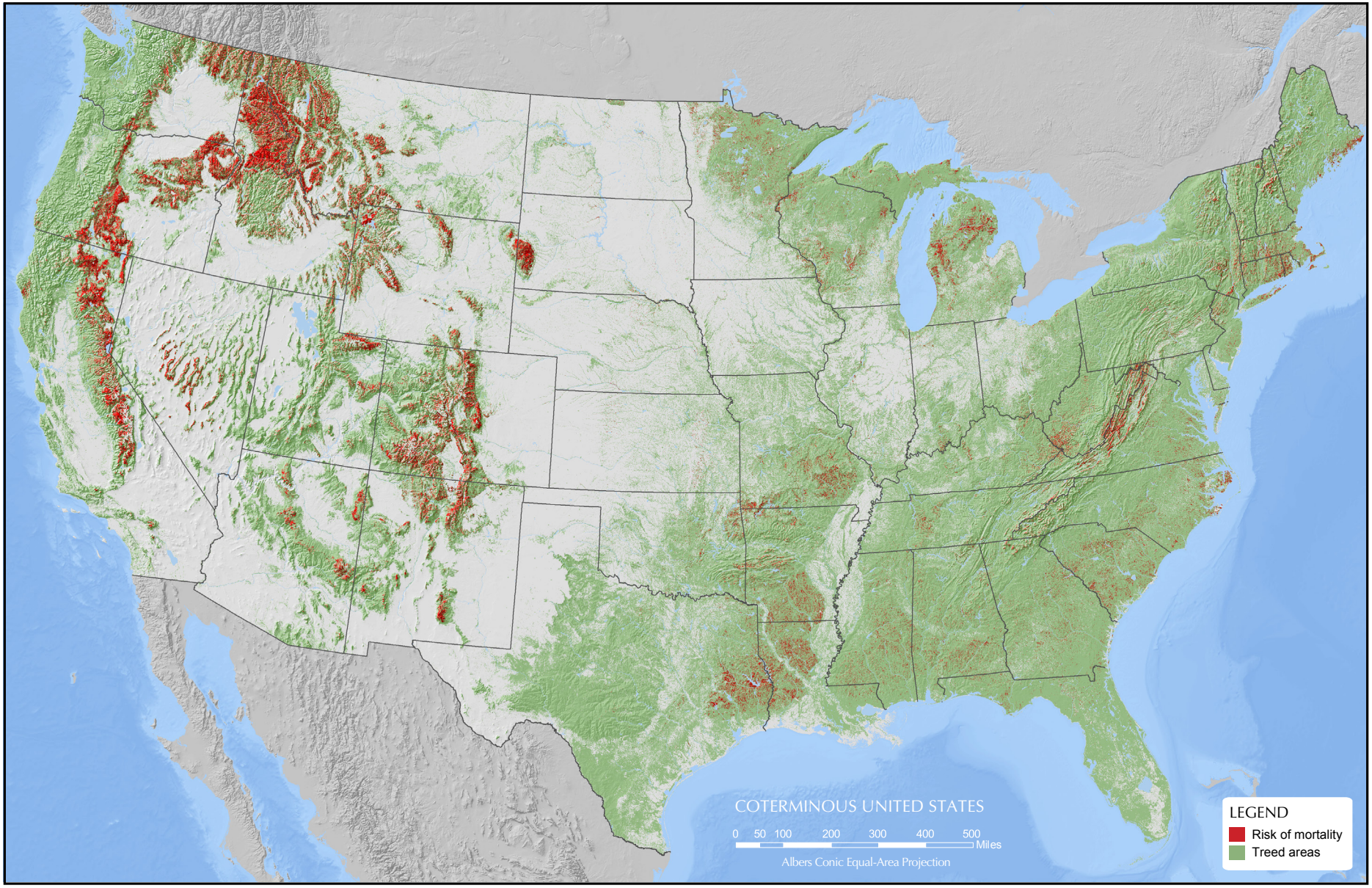
FOREST HEALTH PROTECTION

2013-2027 National Insect and Disease Composite Risk* Map

Acres in Hazardous Condition: Approximately 81.3 million



*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.

March 2014

2012 Forest Health Protection National Insect and Disease Risk Map (NIDRM)

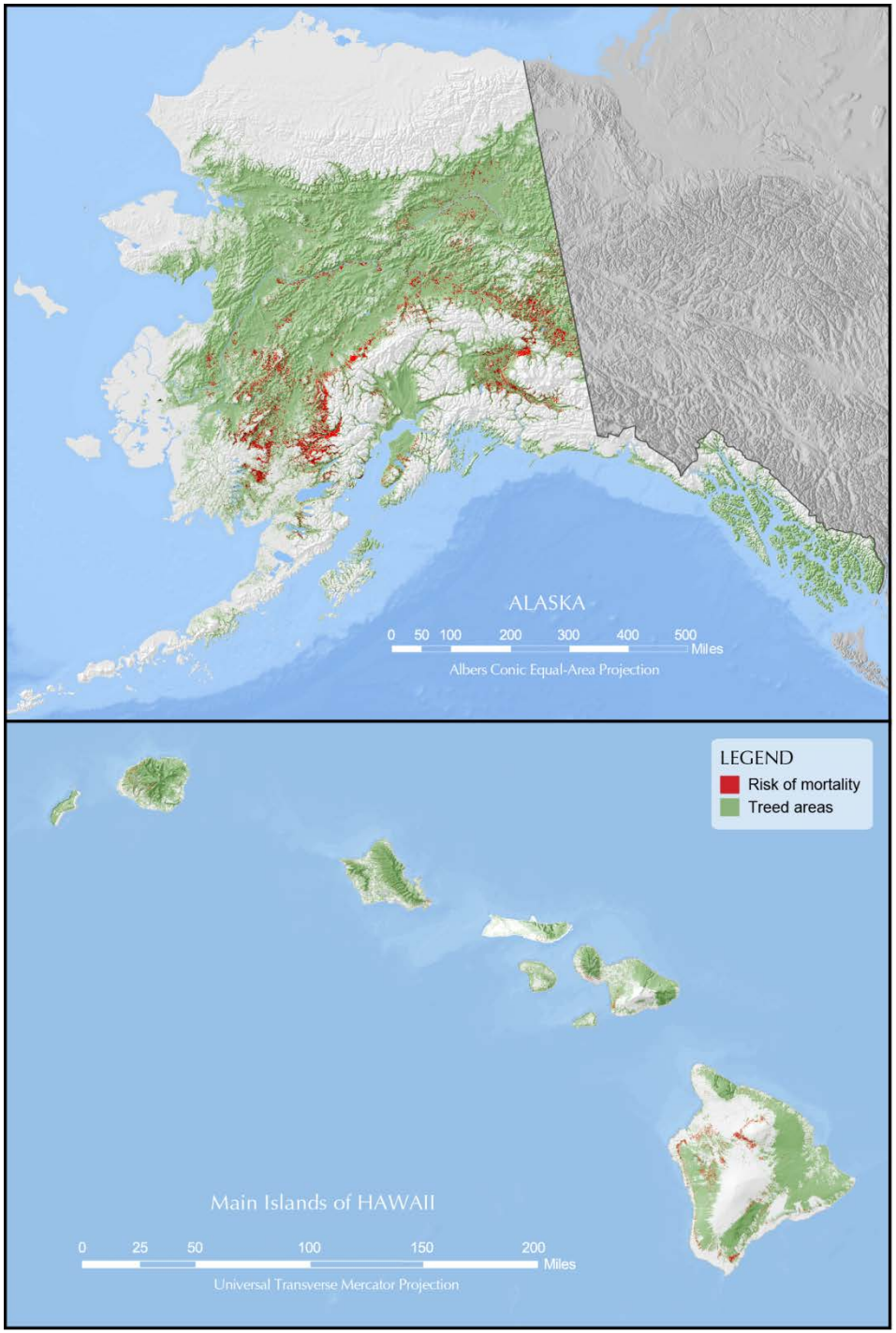
National Insect and Disease Risk Map Overview

81.3 Million Acres in Hazardous condition

The 2012 National Insect and Disease Risk Map (NIDRM) is a nationwide strategic assessment of the hazard of tree mortality due to insects and diseases, displayed as a series of maps. 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***.

NIDRM is more than just a set of composite maps: It is a nationwide, science-based, administrative planning tool that is the product of a process whereby, every five years, the forest health community works together to determine the severity and extent of tree-mortality hazard due to insects and diseases.

PURPOSE NIDRM's primary purpose is as a strategic, broad-scale planning tool that can be used for administrative activities and work planning. In certain landscapes and at appropriate scales, NIDRM maps may be helpful for on-the-ground tactical management.

DATA SOURCES AND PROCESSING Previous NIDRM assessments defined forests as lands containing at least 10% tree canopy cover, including land that formerly had such tree cover and will be naturally or artificially regenerated. By this definition there are approximately 749 million acres of forested land in the coterminous United States and Alaska. For the 2012 hazard assessment, we extended these limits and modeled 1.2 billion acres of treed land (i.e. areas of measurable tree presence) across the US—whether or not these treed lands met some standard definition of forested. This approach improves coverage for rural areas of the Great Plains, as well as urban areas nationally. The 2012 hazard assessment estimates that 81 million of these acres are in a hazardous condition for insects and diseases. Almost 72 million acres are in the coterminous United States, and 9.5 million hazardous acres are in Alaska. In Hawaii, not previously assessed, just under a half-million acres are estimated to be in a hazardous condition. These estimates do not include hazard due to projected climate changes, although this NIDRM report includes an examination of future climate impacts on insect and disease hazards.

MAJOR HAZARDS Collectively, root diseases, bark beetles, and oak decline were the leading contributor to the risk of mortality in the coterminous United States, while spruce beetle was the most significant contributor in Alaska. The confluence of bark beetles and root diseases has resulted in large contiguous areas at risk across much of the western United States. Emerald ash borer is the most significant exotic forest pest. Tree species with the potential to lose more than 50% of their host volume include redbay and whitebark pine.