Utah Forest Health Highlights
2018

Forest Resources

Utah landscapes are diverse, and visitors from around the world, together with Utah locals, enjoy Utah's forests, which extends from deserts and canyons to the alpine zone.

While Utah is only 34% forested, these forests have high scenic, recreation, wildlife and other forest use values. In Utah's dry climate, healthy forests protect and enhance water quality and quantity, for a growing population.

In Utah, over 18.2 million acres of forests are administered by federal, state, and local agencies. Another 2.9 million acres are privately owned.

Detailed information on Utah's forest vegetation is available from Interior West Forest Inventory and Analysis (FIA). http://www.fs.fed.us/rm/ogden/publications/utah.shtml

Tree net growth and tree mortality estimates are based on FIA inventory 2006-2016 average. Tree mortality, averaged 24,389.4 thousand cubic feet. The averaged annual net growth of all live tree species on forested lands is -27,900.8 thousand cubic feet, which suggests that there has been more tree mortality, on average, than growth. The mortality that has contributed to this negative net growth is likely due to: drought, disease, past/current bark beetle outbreaks, and wildfire.

Components of Change

Several factors have contributed to the poor state of forest health; including drought, bark beetle outbreaks, large wildfires, and invasive weeds.

In 2018; there were 1,253 total fires, which burned 370,448 acres. This number, includes the Goose Creek fire (which burned 132,220 total acres NV/UT), as it started in Nevada, it's not on the official Utah list. However this fire burned 68,291 acres, 52% of the fire, in Box Elder County Utah. There were ten fires, greater than 10,000 acres. The largest, was the Pole Creek fire, which burned 102,191 acres. The Dollar Ridge fire is the second largest at 70,003 acres; followed by the Goose Creek fire (mentioned above).

Dollar Ridge Fire; 2018
photo by Keri Greer.

Large fire consequences include; sterilization of soils when fires burn hot, spread of invasive weed species and potential loss of high elevation tree components, such as subalpine fir and Engelmann spruce. It may take a few hundred years to restore Engelmann spruce stands to maturity.

Forest Health Issues

Hundreds of Utah communities are at risk to catastrophic bark beetle induced mortality. In 1997, approximately 2.2 million acres of Utah's forests were rated moderate to highly susceptible to bark beetle attack. Over the past 20+ years, many of the acres rated susceptible have been affected by bark beetle.

Insect induced tree mortality is described in terms of acres affected, however, not all trees on these acres are dead. Not all forested lands are aerially surveyed, and not all the same acres are surveyed every year.

Spruce beetle caused mortality increased by 11.3%

from 2017 where 83,348 acers were affected, and is still at outbreak levels with 92,832 acres affected statewide in 2018. The largest number of acres affected in 2018 occurred in Duchesne, Summit, Wasatch and Dagget counties. It should be noted that much of the mature Engelmann spruce throughout the state has been killed by the spruce beetle.

Western spruce budworm defoliation was notable in 2018, with 83,372 acres affected. Most damage was mapped in Beaver, Sevier, Garfield, Piute and Wayne counties.

Douglas fir beetle induced damage was noted in most counties in 2018, with a total of 12,104 acres affected.

Fir engraver beetle, usually in white fir. It was noted in most Counties, with 21,011 acres affected.

Invasive Species

Invasive species are non-native insects, diseases, or plants, which may become established, spreading rapidly, causing significant economic and ecological impacts to forest and urban trees.

Balsam woolly adelgid, *Adelges piceae* (Ratzeburg) (Hemiptera: Adelgidae) (BWA), is a tiny sucking insect that was introduced to North America from Europe and is a damaging insect of true fir. In Utah, subalpine fir (*Abies lasiocarpa*) is a highly susceptible host tree; white fir (*A. concolor*) is also a host, but is more tolerant.

In September 2017 BWA was confirmed in Utah. It has now been confirmed in Box Elder, Cache, Rich, Weber, Davis, Morgan, Salt Lake and Summit

BWA caused gouting on Subalpine fir branch

BWA white woolly masses on Subalpine fir trunk

counties, with Utah County added to the list in 2018. BWA was seen with aerial detection surveys showing 13,021 acres affected.

Gypsy moth is a non-native insect defoliator, which if established in Utah, would alter our hardwood forest landscapes, adversely affecting our high-value watersheds. Utah continues an aggressive monitoring program statewide, to catch potential infestations before they become established. Gypsy moth was not detected in Utah between 2008 and 2015. However, one was trapped in 2016, but there has been no addition captures since.

Emerald ash borer (EAB) is an invasive beetle that attacks only ash trees. It may be one of the most destructive forest insects to invade the United States.

EAB was first detected in Michigan. It is thought to have been in wood packing material, imported from its native Asia. Since then, EAB has been found in more than 20 mid-western and eastern states, killing more than 50 million ash trees.

In September of 2013, EAB was found in and around Boulder, Colorado. Since then, it has expanded outside of the city of Boulder, and perhaps throughout Boulder County.

Emerald ash borer photo: State.sc.us

To date, EAB has not yet been discovered in Utah. The transport of firewood or other woody materials, made of ash, may introduce it in the future. Evidence suggests EAB is generally established in an area for several years before it is detected (see USDA's EAB Pest Alert for more information).

Noxious weeds are a continuing problem for all Western states. They have the ability to aggressively colonize disturbed habitats, displacing native plant species, and alter ecosystems.

Myrtle Spurge

Photo by Mosbruger, Salt Lake County Weed Control Program

As of 2013, approximately 338 species of exotic aquatic and terrestrial plants infest lands in the State of Utah. Currently, Utah has declared 54 of these species as noxious weeds.

The exact acreage of lands infested by noxious weeds is unknown; however, every county in Utah is infested by at least ten noxious weed species. Many species of exotic aquatic and terrestrial plants infest the State.

Fall Colors; ***photo by C. Keyes, FFSL***

For More Information:				
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