Utah Forest Health Highlights
2016

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 29% forested, these forests have high scenic, recreation, wildlife and other forest use values, which make forest health very important. In Utah's dry climate, healthy forests protect and enhance water quality and quantity, for a growing population.

In Utah, over 15.1* million acres of forests are administered by federal, state, and local agencies. Another 3.0 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

** acres of forest type decreased slightly from the 2006 forest health highlight report because FIA annual reports were based on 10% forest cover rather than 5% forest cover used previously.*

Tree net growth and tree mortality estimates are based on the most recent 10 years of FIA inventory (2002 through 2011). Tree mortality, has averaged 23,341 thousand cubic feet per year.

The total averaged annual net growth of all live trees on forested lands is -4,556 thousand cubic feet per year, which suggests that there has been more tree death, on average, than growth. However, this is not a complete representation of the state, and numbers will change as additional annual surveys are completed.

Components of Change

Several factors have contributed to the decline in forest health; including historic logging, grazing patterns, fire exclusion, and invasive weeds.

Drought can negatively affect forest health, causing significant changes in vegetative conditions, particularly if combined with these other human-caused practices.

Lone Peak Hotshots
Utah Division of Forestry Fire and state lands

Forest conditions throughout much of Utah are composed of dense mature stands, that are relatively uniform in species and age. As species or age class composition changes, partly due to large-scale insect outbreaks, large amounts of woody debris accumulate.

Some of these changes, over time, may increase fire hazard conditions. Many lower elevation forested landscapes are infested with invasive cheatgrass, and are now susceptible to more severe wildfire.

Although abundant tree mortality occurs in many high elevation fir/spruce sites, stand replacing wildfire intervals are much longer than lower elevation sites, which are often driven by suitable fire weather.

Fire activity in 2016 included 1,072 fires that burned 101,328 acres. There were quite a few fairly good sized fires ,near the 5,000 acre mark, but the largest fire was the Broad Mouth fire, which burned 20,614 acres.

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.

Mortality trends are described in terms of acres affected, however, not all trees on these acres are dead. Not all forested lands are surveyed, and not all the same acres are surveyed every year.

Mountain pine beetle induced mortality, in all pine, has declined from 2015. However, mortality is still occurring within the lodgepole and limber pines.

Douglas-fir beetle induced mortality has been mapped in every county except Washington County. A total of 3,288 acres have been affected statewide.

Spruce beetle induced mortality MillFork 2015

Spruce beetle caused mortality is still being mapped, with a total of 124,370 acres affected statewide. The largest number of acres affected occurred in Duchesne and Summit counties.

Fir engraver caused mortality (primarily in white fir) appears to have decreased statewide, with 1,275 acres affected in 2016. Nearly all counties have some damage mapped.

Subalpine fir tree mortality appeared to have decreased with 13,593 acres affected, and was mapped in nearly all counties statewide.

Western spruce budworm defoliation appears to have increased in 2016, with 121,026 acres affected. Most damage was mapped in Beaver, Cache, Sevier, Garfield Wayne, and Piute counties.

Aspen decline is largely caused by continuing drought, a complex of canker diseases, and insect borers. It also appears that defoliators play a role in some areas.

Increasing aspen decline has been mapped since 2003. Utah is still experiencing significant aspen decline, with approximately 7,269 acres affected in 2016.

Aspen leaf blight (*Marssonina*) was mapped statewide, with a total of 24,629 acres affected. This disease is more pronounced in years when spring weather is cool and wet, during initial leaf formation.

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. Not all introduced species are invasive.

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 has not been detected in Utah since 2008.

Emerald Ash Borer adult and gallery pattern.
Image by Eric R. Day, Virginia Polytechnic Institute and State University, Bugwood.OR.

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.

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

EAB has not yet been discovered in Utah. The transport of firewood or other wood materials, made of ash, may introduce it into Utah.

There is evidence suggesting 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. Several state and federal agencies have the responsibility for monitoring and controlling noxious weeds.

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 lands in the State.

Photo Courtesy of Weeds of Utah

Uinta Mountains in fall

For More Information:				
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