Utah Forest Health Highlights
2013

Forest Resources

Utah forests are as diverse as the landscape itself. Visitors from around the world, together with Utah locals, enjoy Utah's renowned forests that span from canyonlands to the alpine zone. While Utah is only 29% forested, these forests have high scenic, recreation, wildlife and other forest use values that make forest health very important. In Utah's dry climate, healthy forests protect and enhance water quality and quantity for a growing population.

Figure 1 presents a summary of forest cover, or forest type, on all land ownerships using the latest annualized Forest Inventory and Analysis surveys from 2002 to 2011. Over 15.1* million acres of forests are administered by federal, state, and local agencies. Another 3 million acres are privately owned. Detailed information on Utah's forest vegetation is available from the Interior West 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.*

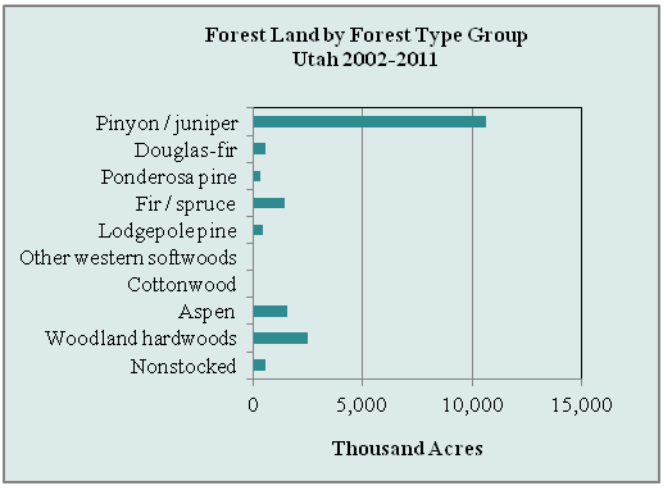

Figure 1

Components of Change

Several factors have contributed to the decline in forest health including historic logging, grazing patterns, fire exclusion, and invasive weeds. Drought conditions can detrimentally affect forest health causing significant changes in vegetative conditions, particularly if combined with these other human-caused practices. Forest conditions throughout much of Utah are composed of dense stands that are relatively uniform in age. As species or age class composition changes due to large-scale insect outbreaks, large amounts of woody debris accumulate. Some of these alterations, over time, may increase fire hazard conditions. Many lower elevation forested landscapes are infested with invasive cheatgrass, and are now susceptible to more

Milford Flat Fire 2007

severe wildfire. Although abundant spruce mortality occurs in many fir / spruce high elevation sites, stand replacing wildfire intervals are much more infrequent than lower elevation sites and often driven by suitable fire weather. Fire activity in 2013 included 798 fires that burned 70,282 acres. two of the fires (State and Patch Springs) consisted of 61,640 of the total acres. For more information visit http://bit.ly/gaccareacontacts Approximately 2.2 million acres of Utah's forests were rated moderate to highly susceptible to bark beetle attack in 1997. Over the past 15 years, many of the acres rated susceptible have been affected by bark beetle.

Figure 2 shows average annual net growth from 2002 through 2011. The total of all live trees on forested

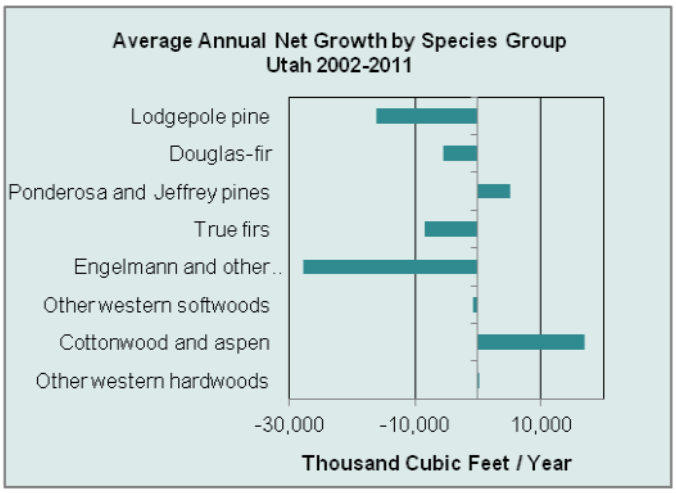

Figure 2

lands has averaged -4,556 thousand cubic feet per year, which suggests that there has been more mortality on average than growth. Figure 3 includes tree mortality, which has averaged 23,341 thousand cubic feet per year. Net growth and growth loss estimates are based on the most recent 10 years of FIA inventory. However, it is not a complete representation

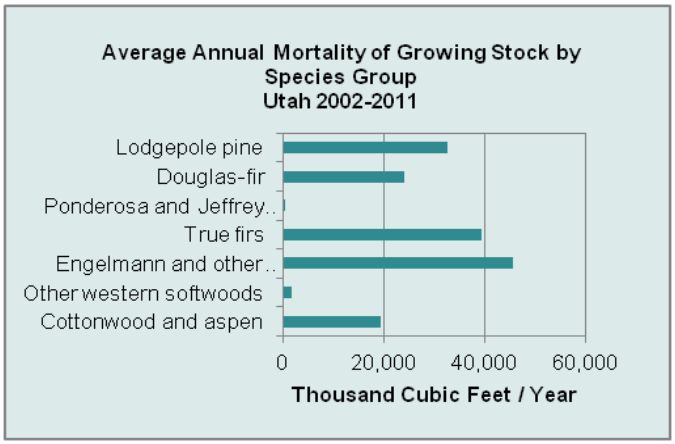

Figure 3

of the state, and numbers will change as additional annual surveys are completed.

Forest Health Issues

Hundreds of Utah communities are at risk to catastrophic bark beetle induced mortality. Mortality trends are described in terms of acres affected, however, not all trees on these acres are dead. Thus, an estimate of the number of trees killed is also provided. Not all forested lands are surveyed, and not all the same acres are surveyed every year. In 2013, insect and disease-caused tree mortality generally increased from 2012. Mountain pine beetle induced mortality in lodgepole pine has been declining over the past several years. However, it has increased by nearly 40% in 2013. Western spruce budworm defoliation increased by 13,558 acres in 2012 to 35,105 acres in 2013 a 158% increase. Douglas-fir beetle induced mortality increased by 67%. Spruce beetle induced mortality has been significantly increasing, mostly in Summit, Wasatch and Sevier Counties. Statewide, the number of spruce trees killed in 2012 was 63,063; in 2013, the number killed was 412,662, a incredible increase of 554%. Subalpine fir mortality has increased dramatically from 9,376 trees killed in 2012, to 56,586 trees in 2013. Figure 4 summarizes 2013 aerial survey data for bark beetle induced tree mortality in Utah's forests.

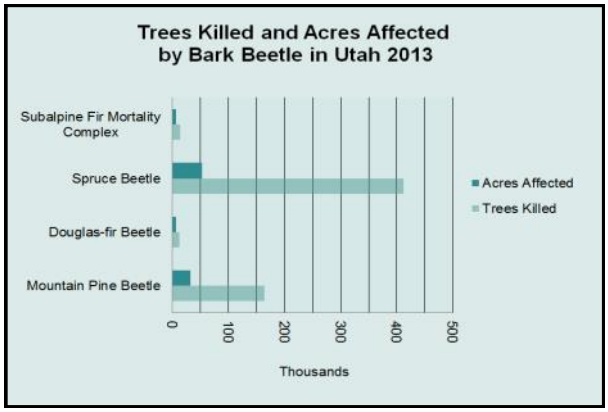

Figure 4

Increasing aspen decline and dieback due to insect and disease has been mapped since 2003. Damage peaked in 2007 at 126,000 acres, and then decreased every year since, with only 8,276 acres in 2012. However damage increased considerably in 2013 with 16,187 acres affected. Aspen decline is largely caused by a complex of canker diseases and insect borers, but defoliators played a role in some areas.

Mountain pine beetle induced mortality lodge-pole pine Northslope Uintas

Gypsy moth is a non-native insect defoliator that, if established, would alter our hardwood forest landscapes adversely affecting our high-value watersheds. Utah continues an aggressive monitoring program to delineate potential infestations before they become established. From 2000 to 2009, the gypsy moth detection program has trapped 15 single males in individual pheromone traps. In every case, further delimitation surveys have produced negative results. Delimiting and monitoring activities in 2013 trapped no male gypsy moths; No gypsy moth has been detected in Utah since 2010.

Noxious weeds are a continuing problem for all Western states. They have the ability to aggressively colonize disturbed habitats thus displacing native plant species and altering 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. Utah has declared 27 of these species as noxious weeds.

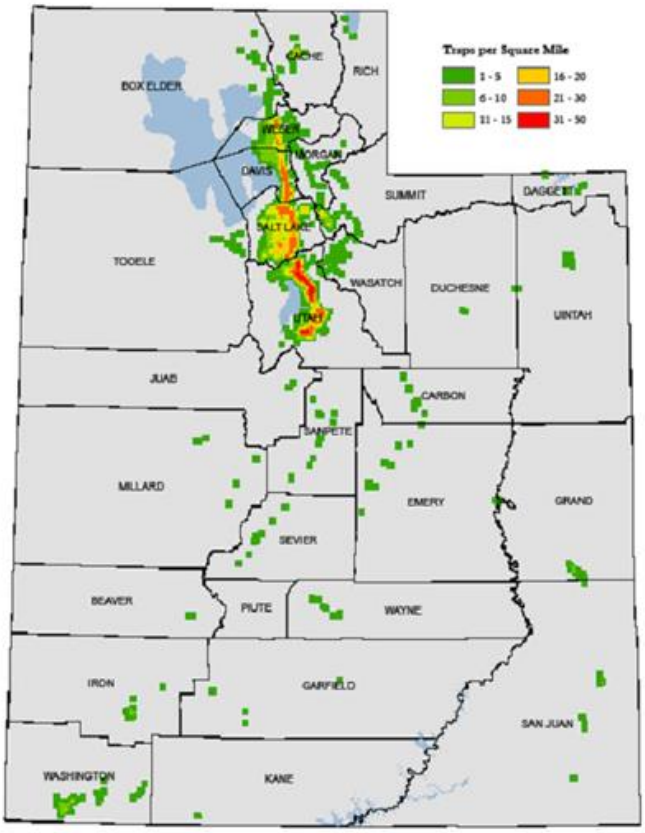

Figure 5 - Utah Gypsy Moth Detection Trap Densities

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. Counties with the most noxious weed species reported include

Cache, Box Elder, Utah, Weber, and Salt Lake. Counties with the least noxious weed species reported include Garfield, Piute, Wayne, Kane, and Washington.

For More Information:				
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