**Great Plains Tree Pest Council Meeting**

**Crowne Plaza Hotel, Billings, MT**

**July 14-15, 2015**

**Minutes**

**Meeting Participants:** Gerry Adams (UN-L), Rachel Allison (NFS), Brandon Alveshere (NDSU), Ryan Armbrust (KFS), John Ball (SDDA/SDSU), Aaron Bergdahl (NDFS), James Blodgett (FS-FHP), Kelly Burns (FS-FHP), Bob Cain (FS-FHP), Fawn Conrad (UW), Gregg DeNitto (FS-FHP), Shantell Frame-Martin (MT-NWEC), Amy Gannon (MT-DNRC), Brian Garbisch (SDDA), Mike Garvey (Garvey’s UF), Mark Harrell (NFS), Jeri Lyn Harris (FS-FHP), Marcus Jackson (FS-FHP), Hannah Johnson (UW), Roy Mask (FS-FHP), Jennifer Morris (NFS), Steve Riley (Billings CF), Kendra Schotzko (FS-FHP), Laurie Stepanek (NFS), Sky Stephens (FS-FHP), Jim Walla (Northern TS), and Marcus Warnke (SDDA)

**Chair:** Mark Harrell

**Secretary:** Marcus Jackson

**Welcome and Announcements**

Mark welcomed participants and requested head count of those participating in field trip and post-meeting field trip. 22 for field trip in and around Billings and 2 for post-meeting trip to Red Lodge area. John introduced a quiz with photos of tree insects and diseases for interested participants to challenge themselves during breaks.

**Update on the Diseases of Trees in the Great Plains Publication**

Aaron noted best case scenario would be for the publication to be in hand by early November 2015. Planning to produce 3,500 copies with a durable binding as in GTR-241 (Field guide to diseases & insects of the Rocky Mountain Region) and would need more money to produce additional copies. Stand-alone pdfs will be hosted on the Rocky Mountain Research Station (RMRS) publications site.

RMRS will provide the book title. Jeri Lyn and Jim W. noted that “Trees” must be in the title.

Aaron said Alisson Hill has been extremely helpful in moving the publication to this point. The GPTPC as a whole expressed appreciation for the efforts Aaron has put forth in this publication.

**Forest Health Highlights Reports**

Jeri Lyn described the need for each state to place Forest Health Highlights (FHH) on the Forest Health Monitoring (FHM) website. She also spoke about the need for FHH to be Americans with Disabilities Act (ADA) compliant and briefly described how to do it. Meeting participants noted that there was a need to make a template. Jeri Lyn believes it is better to provide a format rather than a template since a format allows greater flexibility to states reporting FHH. She sent a document with formatting guidance to R2 states.

**PlayCleanGo: Stop Invasive Species in Your Tracks**

Shantell described how the PlayCleanGo program developed by the Minnesota DNR is used in Montana. This program educates the public through several forms of social media, brand messaging, and providing tools to others interested in spreading the word about actively reducing the spread of invasive species. Additional information about this program can be found at: [www.playcleango.org](http://www.playcleango.org/). This program meshes well with the ‘Don’t Move Firewood’ program described later by Amy.

**Update on Thousand Cankers Disease (TCD) and Emerald Ash Borer (EAB) in Colorado**

Presented by Sky Stephens.

Emerald Ash Borer (EAB) in C0

Sky discussed the history of infestation from detection in Sept 2013 to quarantine and current cooperative survey and monitoring activities. Bio-control releases started in 2015 with two parasites – an egg and a larva – these will be sampled over time to determine presence in the ‘wild’ post release and a third parasitoid is expected for use in 2016.

Outreach efforts have included numerous tree valuation activities including value impacts to property values and associated revenues, storm water retention and air quality. Wide variety of partners cooperating on EAB related issues and challenges.

CO continues to rely on experiences from states and provinces with a history of EAB while attempting to determine how our climate, geography, urban forest landscape and socio-economic groups may be different from other areas in the East.

Thousand Canker Disease (TCD) in CO

In 2013, 47 eastern Colorado communities were surveyed using a modified version of the national TCD survey guidelines to create a geodatabase to help determine where trees were and which communities might have early signs of infestation (for concentrating sample collections). This data can also be used to generate community ‘reports’ for clients and cooperators.

In 2015, two new areas were confirmed to have TCD – Fort Morgan and Eads. Both communities are along travel corridors to Nebraska and Kansas.  Both KS and NE continue to cooperate with CO on TCD activities to generate awareness of TCD, risks and associated quarantines and to work on detection and monitoring on the disease/pest.

**Gall Wasps and Woodpecker Bark Shredding on Oak**

Aaron noted that bark shredding of bur oak was first reported in North Dakota in 2006 with causal agent undetermined at that time. Nebraska mentioned oak bark shredding at the Chadron, NE meeting. In 2013, the Fargo, ND City Forester requested support, so Aaron completed an assessment of 200 trees in 8 Fargo neighborhoods over winter of 2013/2014. In 2014, reports were received from ND, IA, MN, WI, and MT. Samples of gall wasps were collected as they emerged from wood collected in ND, MT, CO, and Calgary, AB. Observations and samples were offered by entomologists and forest health staff across the Plains and beyond. Whitney Cranshaw of CSU helped get the gall wasp identified as *Callirhytis flavipes* and the same identification was made by USDA ARS in Fargo after the insects were genotyped. Current belief is that the gall wasp cause little damage directly, but downy wood peckers foraging for the wasps cause the bark shredding and subsequent desiccation that results in dieback and mortality. The wasps tend to prefer 3rd and 4th year old growth in 2” to 11” dbh trees and prefer corky over smooth bark, with very little damage in smooth bark. The damage continued over the 2014/2015 winter albeit perhaps to a lesser extent. Severely damaged trees have been removed while others have been ‘salvaged’ through pruning, but form of many of those trees is questionable. No treatments have been trialed to date, but perhaps a bark penetrating insecticide may prove beneficial.

**Distribution, Species, and Ecology of *Armillaria* fungi in Riparian ecosystems**

**of the Northern Great Plains**

Presented by Brandon. This study aims to collect baseline data on species of *Armillaria* present in the Northern Great Plains region. In addition to identifying the species of *Armillaria* present in riparian forests of the region, the researchers intend to map species distributions, determine host range relationships, and evaluate pathogenicity among the different species. This involves the temporary establishment of *Armillaria* survey sites along forested riparian areas in North Dakota, South Dakota, and Nebraska. Samples of *Armillaria* are collected at each survey site where *Armillaria* is found, cultured in the lab, and identified using molecular techniques. Measured parameters and collection methods for each survey site are based on those of Blodgett and Worrall (1992a, 1992b). Data collected so far have suggested that *Armillaria* is probably widespread in the riparian forests of the Northern Great Plains.

In this study, Armillaria has been found at nearly every site surveyed. It has been found most commonly as a saprophyte colonizing dead trees, however, it has been observed killing live plains cottonwood (*P. deltoides*) and green ash (*F. pennsylvanica*) as well. *Armillaria* has also been found on boxelder (*Acer negundo*,) bur oak (*Quercus macrocarpa*,) and American linden (*Tilia americana*,) but so far has only been observed colonizing snags of these species. This study will continue with more field work in 2016.

Blodgett, J. T., and Worrall, J. J. 1992a. Distributions and hosts of *Armillaria* species in New York. Plant Dis. 76:166-170.

Blodgett, J. T., and Worrall, J. J. 1992b. Site relationships of *Armillaria* species in New York. Plant Dis. 76:170-174.

**Montana’s “Don’t Move Firewood” Campaign**

Montana DNRC has been cooperatively working with Idaho and Wyoming on education and outreach efforts to deter the movement of firewood.  The Nature Conservancy’s Don’t Move Firewood campaign has offered technical support to the states and a USFS Competitive Redesign grant has funded specific projects.  Montana has used the funding to directly mail postcards to non-resident hunters, buy space in hunting regulations, and place ads on billboards.

**Spruce health assessment in North Dakota in 2014**

Report by Jim Walla, Northern Tree Specialties, North Dakota. A spruce health assessment was made across ND in 2014 for the North Dakota Forest Service. This was in response to apparent decline of spruce health in recent years and to assess the incidence and impact of the relatively recently diagnosed Stigmina needlecast (*Stigmina lautii*). Assessment objectives were to determine which, if any, needle disease is primary in the observed decline in spruce condition in ND (primary), and to note incidence and impact of other damaging agents (secondary). 622 spruce trees at 103 sites in 5 counties along each of two east-west statewide transects were assessed for condition and presence of health issues.

Several biotic and abiotic causes of spruce damage were present. The major pattern of decline was similar to the pattern of increased crown porosity previously associated with Stigmina, and it appeared that Stigmina was the primary cause of the decline. The most common agents of spruce damage were Stigmina needlecast, Rhizosphaera needlecast, Cytospora canker, spider mites, spruce needle miner, pine needle scale, spruce bud scale, and salt toxicity. Needlecast was the most damaging agent observed, and that appeared to be primarily due to Stigmina. There were no substantial differences in severity of Stigmina on white spruce compared to blue spruce. Rhizosphaera was found much more frequently than expected, but there were usually relatively few Rhizosphaera fruiting bodies, so it appeared to be causing very little impact. Needlecasts appeared to be just getting established at several sites, esp. in central counties (pattern of fruiting body incidence & damage). None of the tree owners/managers contacted during the assessment were aware of Stigmina needlecast. Before spruce health declines further, there is an urgent need to inform tree owners and managers about the impact that Stigmina is having and their options for managing the disease.

**Climate and Mountain Pine Beetle Epidemics in the Black Hills: What’s the Connection?**

John noted that stand conditions are a major factor in development of mountain pine beetle epidemics in the Black Hills. For improved resilience, we need to manage for different age classes and greater species diversity, or more importantly, genera diversity. Age class and species diversity are important for both public and private land management.

**State Reports:**

**North Dakota** – Aaron mentioned the polar vortex and noted that he had installed temperature sensors under the bark of some trees to compare internal to ambient temperatures. He also mentioned his assessment to see how Meyer spruce grows while needlecast develops. This study began at Towner State Nursery in 2007, but it will be a few more years before a good evaluation can be completed.

Jim W. discussed his work to collect Dothistroma from pines in ND, SD, NE, and KS for determination of Dothistroma species infecting these trees. *Dothistroma pini* was identified in all states except KS. This *D. pini* is unique from any other *D. pini* in the world. *D. pini* was confirmed via molecular techniques in limber pine for the first time. A needle blight disease in the native limber pine of ND was thought to be caused by *D. pini*; however, it produced spores that appear to be from a *Diplodia* sp. This could potentially be a previously unknown needle blight disease of limber pine.

Jim W. also mentioned a couple trees with resistance to disease. ‘Royal Splendor’ Norway spruce is known to be resistant to Stigmina needle disease. This NDSU release is not yet available. Green Canyon Rocky Mountain Douglas-fir may replace spruce in some areas due to disease problems in spruce.

**South Dakota** – John noted there has been a downward trend in mountain pine beetle in the Black Hills. Attempts to protect relic limber pine have included verbenone applications and sprays. Of the ten trees on which he applied verbenone, five are dead due to blue stain and the other five are spiralled (partially alive). Although adult galleries are present, no larval gallaries have formed. He also noted that the all growth forms of juniper have been severely damaged by voles.

John talked about several hardwood issues in SD, including increased reports ash leaf curl aphid (which he believes may be associated with abundance of rain), ash seed weevil, and ash borers (probably holdover from drought). People are looking more closely at ash in recent years. There was lots of freeze injury in the spring, especially in late leafing out species, such as hackberry and honey-locust.

Jim B. provided a written report of important diseases in SD.

**Nebraska** – Lauri reported increase in various environmental damages to trees. Lots of freeze damage to willows and possibly maples triggering development of latent cankers. Various degrees of Botryodiplodia canker were seen in hybrid elms, such as ‘Homestead’ and ‘Frontier.’ Many shrubs had not leafed out in the spring. Foliar diseases were prevalent in 2015 due to a very wet spring.

Laurie also described new NE publications regarding ash tree ID, misconceptions of EAB treatments, and selecting trees for EAB treatments.

Gerry described his McIntire-Stennis grant funded work looking at certain trees that will be useful in NE under modeled global climate change. He’s looking at growth responses over large regional areas. In addition, he’s working with cankers that appear to be influenced by climate change. Gerry noted they’re planning a planting with about 20 different types of elms of mostly hybrids, but including some American elms as well.

**Kansas** – Ryan noted some extremes in precipitation from drought to high levels of precipitation (which have caused increases in some foliar diseases). He also mentioned the mid November, 2014 50+ degree drop in temperature. This was a weather event that affected much of the Great Plains all the way up through Montana.

Three counties adjacent to Kansas City have EAB, with some mortality now attributable to the insect. There has been some success using girdle trap trees. Community outreach is ongoing with some good successes.

Invasive woody plants, such as Asian bush honeysuckle, are serious concerns. For eastern redcedar, efforts are underway to use rooted male clones for conservation plantings to reduce rangeland encroachment.

Oak galls continue to cause problems. Oak vein gall in almost all of red oak group oaks and leafy oak gall on bur oak.

**Montana** – Amy mentioned the Montana EAB response plan is now with the Urban Forestry folks. She would like to see an All Pest Response Plan developed for Montana.

**Wyoming** – Park County had to institute counteractions to make clear that EAB has not arrived there.

**Colorado** – Sky mentioned that pine wilt nematode was found in eastern and western CO. Douglas-fir tussock moth was causing a second year of damage south of Denver. Phomopsis gall is a problem in Gambel oak. Uptick in scale on lodgepole pine in areas sprayed for mountain pine beetle control.

**Business Meeting:**

-John offered to host the 2016 GPTPC Meeting in Rapid City the week of July 11th (12th and 13th for meeting). Vote passed.

-Lori moved and Marcus’ seconded for John to be the new secretary. The motion passed.

-No suggested changes to the 2014 minutes, so minutes approved.

-Meeting adjourned.