

Bark Beetle Technical Working Group
South Lake Tahoe, CA
October 21-22, 2008

Tuesday, Oct 21

- 8:00 – 8:20 Welcome, house keeping items, local information, etc.
- 8:20 – 10:00 Bark Beetle Projects—completed and/or planned.
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|-------|-------|------------|
| * MPB | * DFB | * ESB |
| * JPB | * WPB | * Ips spp. |
| * SPB | * FE | * WBBB |
- * Others:
Invasives, pheromones, pesticides...
- 10:00 – 10:30 Break
- 10:30 – 11:30 continue Bark Beetle projects
- 11:30 – 12:30 Lunch (on your own)
- 12:30 – 2:30 continue Bark Beetle projects
- 2:30 - 3:00 Break
- 3:00 – 5:00 Status of bark beetles by Region (conditions reports).
A few slides or handout, hit the highlights.
15 min max per Region

Wednesday, Oct 22

- 8:00 – 10:00 Updates on specific areas of interest:
- News from WO FHP: *Bob Rabaglia*
 - Western Bark Beetle Research Group: *Chris F.*
 - FIDL updates: *Iral*
 - Update of “Western Forest Insects”: *Iral*
 - Common Names: *Brytten*
 - FHTET funding for special projects: update (what was done in 2008; possibility for funds in 2008):
Harold
 - FINDIT – needs, uses, etc – *Hebertson, Munson*
 - BBTWG priorities (review from last yr): *Sheri*

- Other items to discuss (please contact Sheri if you want to be added to the agenda)
- SAF update
- EM or STDP projects
- 2010 risk map update
- WFIWC update

10:00 – 10:30 Break

10:30 – 11:30 Continue general discussions as needed...

11:30 – 12:30 Lunch

12:30 – 2:00 - Continue general discussions as needed...

2:00 -2:30 Meeting wrap-up:

- Meeting location and chair for 2009

2:30 – 3:00 Break

3:00 – 5:30 Field trip to Angora fire and Jeffrey pine beetle site

Tues/Wed Poster display: **Those who received FHTET funding in 2008 need to present a poster of results at this meeting. Posters will be taped on the conference room wall.**

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Minutes 10-21-2008

Introductions, Housekeeping – Field Trip logistics – Bus 2 pm leave-Angora Fire Rehab and JPB activity back around 6 pm. Keep discussions going less formal presentations on what is working and what is not working.

Bark Beetle Projects—

MPB -

Gail Durham discussed what is happening with the white pines and MPB in NV

Barb Bentz – Long term efficacy of partial cutting to reduce MPB infestation of LP – Shoshone NF with diameter limits on LP cutting leaving limber pine –

Darren Blackford project – Burn Uinitas PP and LP eval and Monitoring MPB attacking fire damaged trees develop guidelines for fire assessment post fire. So MPB does well in LP and PP that is fire injured

MPB range extension into Alberta . Beetles from S. range develop slower than the MPBs from the north. Genetics – ring around the GB and S ones are most genetically different that the ones to the north. N. populations developed much faster than the ones in the south. Mated S. CA pops with N. ones. Sterile males dictate what is going on and the cross mating is limited East to West. Discussion about SP burned very attractive to MPB 99% of the time and that it is in Pinyon in SW. Beetle Pressure most likely makes a big difference on how the susceptible the host species will be after a burn. **Chris Fettig** – effects per prescribed or wildfire is short term affects versus long term affect.

Beth — LP Mt. Hood NF, OR Thinning Study – 1001-2004 thinning 2006 MPB increased in this area so sampled the plots to see. By 2008 stand was wiped out. Thinning was done by thinning from below – Munson – maybe need to look at taking larger class trees out as well in future treatments. This may keep the populations down so that smaller diameters are not taken as well. Joel – Discussion about FS limits on diameter classes by species for leave trees due to other issues. Dwight talked about the SNRA MPB on LP starts with large dia groups and then fills in with the smaller trees, so they are starting to remove the larger class dia LP for their treatments. Discussion about whether old growth LP will respond to thinning? Depends on vigor? Jeff -Maybe LP does not lend itself well to thinning. Maybe patch cuts are a way to treat these stands. Maybe clear cuts. Dwight discussed issues with treatments and blowdown issues afterwards especially with public areas.

Nancy Sturdevant – Helena NF Strategic Plan with Risk Assessment – H, M, and L hazard stands. H hazard stands does not work, so work in M and L hazard stands to 5 EIS in one year

To be done..Also doing a 1 ½ tree length along all the roadsides treatment. Mostly PP and LP, especially on PP stands. Size, Age and open canopy characteristics looked at.

MPB – Rocky Boy Indian Reservation 2008 trials in tree-baited 1 acre blocks– Verb, 20/ac, 30 Verb/ac, V+20 GLV/ac and control looked at. Trends show best with 30 Verb/ac (5%) with 9% on 20V+20 GLV area– 3 rd wk in June installed. Area has been under attack for past 8 years. Most attacks late June – Late August. Synergy pouches have 90 day efficacy, but if we have late beetle flights then new Verb needed. And it may be critical to make sure that infested trees are removed annually even after thinning to 80 BA. Leaf alcohol (aka cis-3-hexenol) and 1-Hexanol are what are in the GLV.

Dave Wakarchuk – Synergy –PP - MPB Trapping with Myrcene and Terpinolene Revisited 2007 - 30 traps – 100,000 beetles captured. NS difference between three lure treatments: exo-brev and t-verbenol combined with either terpinolene or myrcene or 1:1 myrcene and terpinolene.. This and an earlier study have been unable to replicate the results of Borden et al. **T=favors females**, M = favors males and M&T is intermediate between M or T. More females in early flight period. This is the reverse of what is seen with Douglas-fir beetle where there are more males captured in traps in the early part of the flight. **Barb Bentz** – WBP stand study – literature rsch – early beetles are parents that overwintered and re-emerged females are successful in this second early attack.

Sheryl Costello- CO- Study Limber Pine Verbanone- MPB – LM Pine stringers/clusters + Verbanone. With Verb more strip attack vs. pitch out. Feels it has a lot to do with MPB pressure in the area so the 2 sites that had less pressure (1&5). So those least pressure sites still had 35% Verb treated attacked when baited. Where high pressure – much higher % Verb attacked (73%). All trees baited for MPB. **Bruce Thomson** - discussion about what infestations were like back in 80's? Treatments worked longer period time back then. Beetles surviving winters better now. Longer droughts now, etc. **Jeff Fidgen** – and we have lost our capacity to manage the landscape – stand conditions poor over the landscape now. Ken agreed – worse outbreaks now than 80's – not sure about the 30's. **Terry Rogers** – 30's MPB active on the AZ Kaibab Plateau

Rob Progar– Cont 2005 study – 3 location plots 20 pouches per acre - Verbanone 4 yrs data – Handouts – lost one plot ID fire, Verb doing better than previous study – Poster on wall. Not quite to 50% mortality yet (where Verb failed in previous study). Third year of study Verb failed – could have been the 5 G pouch size, etc? Proposing another study R1/2/4/5 – Remove infested trees and 40 pouches/ac treatment. Also considering buffering area with Verb. Choosing areas of eminent attack. Discussion about capturing beetle populations for these studies – attack densities?, mortality predictor? Discussion about using Verb to give you a little bit of time to get the treatment on the ground during the outbreak. Outlast the outbreak.

Chris Fettig – Study Verb single tree – high beetle pressure. LP- MPB – seems to be very effective right now.

Jeff Fidgen – Stem injection – set of needles (hollow nails at 4000 psi) one way valves Acetomoprid? Stanley Basin spring 07 – only lost 3/of 70 trees 30% unsuccessful 46 % but taking up to 2 years to fade – stayed tuned.

DFB

Nancy – Flesher Pass Analysis 2007 and 2008 combined – BW defoliation and DFB – most of the mortality from DFB, but those with 50% or greater defoliation preceded DFB mortality. Handout-Dry harsh site and 4 years defoliation.

Steve Munson – Liz custom fuel models with USU – Now ES model to be done this year. DF to be done next year, and LP done. These will become part of the LANDFIRE model. Also doing photo appraisal guides. To be done Sept. of 2009. These models can be a tool with managers to encourage them to address bark beetle issues with treatments.

Darren – Sundance – DF push pull MCH – looks great. In the Bighorn campgrounds looking good even though the area around is toast.

ESB- none.

Discussion of MPB in spruce in some areas. **John-** Maybe the males Frontalin drawing in the SB? Or was it just too many beetles for available host materials, so they may go into Spruce. **Sheryl** – SB in base and MPB in top but successful brood rare in the Spruce. Mostly found in the ES/Pine ecotone. Amy discussed the in Urban interface – MPB is attacking spruce and in some cases where the pines are not being attacked.

Munson – MT – stands silviculturally treated to see if diff in ESB mortality – was a positive difference on treated stands. Tree age, diversity, etc made a difference. Try to go to 80 to 100 BA, but wind throw problem. Stands treated in 60's or 70's with stand diversity in the understory does best. Thin to 120 to open the canopy a bit for spruce regen instead of SAF – need certain shade/sun component needed.

JPB

Andy Graves – UCD – Study Stand density, tree drought stress, and colonization success of JPB – CA JP Stands at high elevation- Objs- measure tree health to predict what will be attacked in relation to drought stress – no results yet. Looking at drought, water potential, resin chemistry, foliar and bole emissions, etc. Volatile sampling on foliage and bark. So far heptane is in the bark but not in the foliage. Denser stands experiencing more drought stress. Variable drought stress, no bark beetles attacking yet. Det. Palatability of various trees – taking beetles from Lassen & Tahoe areas and feeding phloem from all areas to see palatability of trees from various areas. Trees are selected by age 80-90 yrs old (variable size range) in dense and not dense stands. More info this fall. Sheri talked about looking at PDSI at -2 for 2-3 years is when JPB starts to pick up using old historic JPB data and PDSI. Sheri talked about how attacks are based on this drought affect and then on nearest neighbor proximity for next year hits. Discussion about borers and ips killing JP vs. JPB in some of the S. E. Sierras. **Seybold** talked about Ca. flathead borer being in suspension until conditions are right to take off.

Sheri Smith— Lures study on JP – Luther Pass area – lures work when the populations are higher. Trapped several thousand last year. 250 ml bottle 95% N-Heptane and 1-Heptanol mix. Females in early season like many species. 80% reduction with Verb GLV pouches on lure trees. With Frontalin – no trap catch at all. Males produce this as anti-aggregate.

Tom Coleman— JPB range – some ranges never reported out – S. CA work – San Berdinio yes, but not in San Jancito, Santa Rosa, etc.

WPB

Fettig - PP protection study. Sheppard of S. Station – blend for protection – see John Borden's talk.

John Borden – Contech – Large Plot test of Verb + against WPB - + components are proprietary. Tested in Ellison Park near Vernon BC in mature PP. 3 + components on a 15 M centers. One generation of WPB this year. Of 406 PP mass attacked 80.5 % by WPB and 9.6% by MPB and 9.9% by both MPB and WPB. For the WPB only attacked – treated significantly less attacked. Traps were not baited. Hoping to have a product registered for next year but can provide FS product for research projects for next year. Components are very, very safe for use.

David Wakarchuk - Synergy – Improving WPB lures – continuation of terpene synergist studies done in AZ and OR. Low dose alpha- pinene or. myrcene combined with frontalin and exo-brevicomin in OR study. Variability in OR, 2 of 3 sites had higher catches with myrcene while another site had highest trap captures with a-pinene.. In s. BC 2008 – standard commercial lure – exo brevicomin, Frontalin and myrcene were compared with lures using frontalin plus higher dose exo-brevicomin, high dose a-pinene, or reconstituted P pine blend or higher dose myrcene. Traps baited with myrcene and P pine blend captured 3X more beetles than standard lure or the lure with high dose a-pinene.. Conclusions. AZ beetles like alpha-pinene, OR – variable, S. BC Myrcene or P-pine blend best lure so far. Terpene synergists have more effect on captures than does the beetle produced exo-brevicomin. P pine mixture used in BC also being tested in CA. Sheri and Brian Strom are checking CA trap counts now.

Exploiting the use of traps and repellants for tree protection in a mixed WPB/MPB infestation - Ranch to protect high value (+ 150 years old) near heritage buildings. 2006 12 trees infested and left untreated.. 2007- 134 trees treated GLV+Verb and trees in the central area of the ranch were perimeter protected using verbenone and GLV at 20 M spacing. Verbenone/GLV treatments in the central area were only partially successful at tree protection while the trees near heritage buildings were all beetle-free. 2008-32 WPB traps deployed in the central area because many trees were now infested. and not removed previously. Traps baited in the early part of the season for WPB and 7000 beetles captured. Traps later switched to to MPB lures with myrcene and these captured ~15,000 beetles. Conclusions- Fewer trees in central area attacked in 2008 with traps present. None of the 134 mature trees treated with V/GLV near heritage bldgs have been

attacked (2 yrs). Ranch mgmt views the treatment as a success (using the traps). Cost estimate - Verb = \$6/pouch and GLV = \$4/pouch.

Rich Hofstetter –AZ multiple projects – Alpha pinene best in 9/11 sites. Predators were not affected by the lures. When they trap the WPB they catch SPB. More open stands PP caught more WPB in passive traps, but more attacks in dense stands. WPB and SPB – competitive interactions – SPB had no affect on WPB reproduction and growth. Female WPB logs attract both SPB and WPB. They both emerge at about the same time. Coldest range for SPB 8,000 feet in AZ. WPB may be initiator with SPB later. Interesting observations of gender aggression in phloem sandwich studies. MS student – host selection genetically or host origin study. CA work on WPB – resin from burn to unburn with lure trees – no difference in resin components that attract or repel. Future – bacteria of WPB to be looked at. So far not a protector from other microbial species.

IPS –

Rob Flowers - FHTET\$ – Poster presented. Trappin study of *Ips paraconfusus* at 11 sites along a lat. gradient in the Willamette Valley, OR. I.p. occurred throughout the range of the Valley PP ecotype with two peak flights observed (July & September). Abundance/flights were not correlated with latitude, but related to local site/stand conditions. Populations and stand damage were highest in older, remnant stands where breakage/blowdown from winter storms often goes unmanaged. Additional trapping is planned to confirm initial results and assess presence of other Ips spp.

Joel McMillin – Tom DeGomez and Joel paper on slash management lit. review. Ips and Chips paper – website reference below. Amount of chips affects *D. valens* population pressure. Managing Slash to Minimize Colonization of Residual Trees by *Ips* and other Bark Beetle Species Following Thinning in Southwestern Ponderosa Pine:
www.cals.arizona.edu/pubs/natresources/az1449.pdf

Joel also discussed publication “Influence of Temperature on Spring Flight Initiation for southwestern Ponderosa Pine Bark Beetles Gaylord, M. L. et.al.” – Established a temperature range for flight initiation for various Ips and Dendroctonus spp. All spp except *D. adjunctus* - >15 degrees C springtime temperatures

SPB

Rich Hofstetter –Study – Attraction of Southern Pine Beetle, *Dendroctonus frontalis*, to Pheromone Components of the Western pine Beetle, *Dendroctonus brevicomis* in an Allopatric Zone. Exo brevicomin lure analysis – SPB and WPB is released by both and is attracting more SPB than WPB in AZ study.

Brian Strom Pineville, LA has been looking at these chemicals Endo brev 4 meters away will increase trap catches significantly. Male produced chemicals should be off the traps. This lure has really worked well to trap. Device to pump Verbenone has been developed tested in MT, and CA. Pump works, but need to adjust to Temp and areas being used. Puffers - \$100/each approximately. Website development for hard-to-find literature. EB Injection residue chemistry work – loblolly pine it works better. EB had no effect on # of

hits but did affect gallery length. Did bioassay work on the various bolts. Carbaryl does not work for SPB.

FEB

Lures discussed. Alpha has one.

Joel Egan – Master thesis in Warner Mts. Of CA – plots established after drought and outbreak in areas thinned (15-20 years before and non-thinned. In Mixed Conifer – PP/WF mortality caused by fir engraver correlated to WF density. Interestingly mortality follows pattern of host density rather than overall stand density in the few plots with highstand density index and low white fir density. Mid elevations had highest mortality. Findings similar to Cochran (1998) and McMillin et. al. (2003). .

WBBB – no report

RT – other native Beetles – no reports.

Non-Native beetles

Andy Graves - Red haired PB is moving out of LA into the Angeles NF on native and planted stands.

Met. Pine Engraver – bait trapping with distance of flight study. Most within a 2 KM distance of origin. Sheri - Now breeding in golf course non-native trees in Central CA.

Pityothorus juglandis– thousand canker genus carrier in CA on native black walnut. Looking at pheromone work. Have it in AZ as well. Fungus is common on the beetle. Not much interest from the walnut growers yet in CA.

Ingrid Aguayo – Black Walnut decline in Boulder so far -250 trees powerpoint. Yellow traps being used right now. Walnut Twig Beetle now in large boles and trunk. Fusarium trunk and branch cankers assoc – *Geosmithia spp. fungus* is associated and the aggressive canker that is killing the walnuts – many cankers associated with this beetle so given the name Thousand Cankers Disease. Beetle is native to SW US.

Joel thinks they found it in AZ as well.

Bob Rabaglia - 2008 found hardwood spp non-natives: LA – 1 beetle of Asian spp. beetle – Not sure where it came from. FLA – around Miami – 1 beetle found *Coptoborus* spp. (South American Spp) and another one *Certogenius?* spp. one beetle in one trap in FLA.

Tom Coleman - Oak mortality – *Agrilus coxalis*- goldspotted Oak Borer found in S. CA – looks like a canker. On California black oak and coast live oak, and canyon live oak. Not in Engleman oak yet. Pest alert out now on it – handout.

10-22-2008

Chris Fettig- Looked at spray dynamics and deposition data for tree spraying – HPLC technique- buffers we are using are very adequate – 25 M buffer should be sufficient for aquatic fish, insects, etc. In the Journal of Environmental Quality. Application efficiency is 80-90%.

Munson – 50 feet is more than adequate to protect these organisms. Discussion about natural levels of Carbaryl in the Sierras due to drift from Central Valley, CA, etc.

R-1 – Committee Report – **Sandy** and Jeff – ID – Graph handout of MPB, DFB, FE, WBBB acres. MPB increasing in hot spots N ID, FEB increasing, DFB about the same, WBBB- increasing slightly, WPB increasing slightly. Jeff- R-4, but R-1- FEB slight increase grand fir 10-15 trees/acres. MT – **Amy** – MPB widespread and shelterbelts and landscape trees spruce, pines as well. **Ken** – 2008 data not summarized yet – 2007 data – MPB more (but not all areas flown) 2007-800,000 acres est. 2008 will be over 1 million acres, declining where susceptible hosts are gone, LP>WBP>PP>LMP, urban areas, etc. DFB declined significantly, WBBB in SAF declining a bit, SBW some defoliation. Little FEB little grand fir left, MPB study in high elev WPs at the printer now. *Ips pini* and twig beetles taking out smaller trees and tops of Carb sprayed trees now as well. SB also.

R-2

Sheryl – MPB =LP even the regen being attacked, some LM Pine, and PP concurrently. Wind throw issue closing campgrounds and lots of media interest regarding the outbreak along the front range. Great Plains Tree Pest Council has been developing info for firewood, etc. Many working groups and looking at future forests. Rates of increase approx with 100 trees/ac in areas especially in N. CO.

Bob

New areas in 2007. Using a lot of Carbaryl in campgrounds but blow over issues and veg management plans required. Gunnison and MPB continued into both of these areas. One area of uninfested LP left. Ips, T+RT+ DFB also increasing. SB increasing especially in blow down areas. Rapid City SC MPB on Bighorns, central area of South Dakota areas, and on the Shoshone NF. DFB also increasing. ES getting hit by SB in North Shoshone area. Using MCH in campgrounds hit by DFB – good success. Black Hills PP thinning areas holding up down to 40 BA

Ingrid

Front range MPB even in the plains getting into the Scots pines. But this year 100 trees infested near the foothills by wind current event in Ft. Collins. Urban trees pitching them out or very small galleries with no laying so far. Private landowner info on Carbaryl spraying – spraying every year due to fear if in epidemic and need to spray to tops or will be hit MPB or IPS. Have not seen in Austrians or spruce trees being hit there yet. Fettig reiterated that you only need to spray C once every 2 years.

R-3

Joel- AZ – not a lot at lower elevs. High elev pine roundheaded pine beetle in dense PP forests. Coronado NF MPB now just reported. N. Kabibab plateau – historic (1970s) MPB outbreaks and this year found some infested trees. Barb – plots previously put in to follow outbreaks – still waiting - 1995

Terry- New Mexico – DFB & WBBB N of Santa Fe outbreaks this year. S. NM – Pine Bark beetles in PP Ips and WPB. In general it has been decreasing in NM. 2008 had good snow pack and a lot of rain. FEB and DFB activity significantly decreased. Wind throw Sangre de Cristo Mountains – look for SB next year. Munson – Ips probably not necessarily SB unless scattered blow downs. UT lost 95% ES but not the Blue Spruce – is this the case in R-2? **Bob** – CO – patchy but not really seeing it in BS.

R-4 –

Dwight – ID – 2008 not summarized yet. MPB 2007 significant increase while SB decreased but not able to survey much of the area. Expect much higher MPB 2008 numbers. WBP is getting hit hard. DFB still active. WPB decreasing. SB still active.

Gail reported that MPB heavy in Jarbidge and increase in high elevation WP's across the state. Mt Mahogany decline continuing on lithic to shallow soils across the state with centers starting to die off after severe drought decline. WBP study – **Dana** will have results at WFLIC.

Jeff Fidgen = since 2004 WBBB funding for SNRA Salmon Challis treated 13000 acres so meeting with HA to try to increase spp. diversity in their stands. Salmon Challis – DFB – and WSB spike has him concerned for set up for DFB wipe out.

Darren- MPB on PP, BW and DFB in Central UT working together, LP MPB taking out trees leaving only DMT -LP seedlings.

R-5

Sheri = WPB and MPB increasing LP and a little bit 6,000 trees in WBP, JPB increase, FEB increase, Mixed spp. A little bit of pinyon ips increase. Discussion about PDI values for various regions of Ca.

R-6

Iral – Prelim 2008 data MPB, WPB and Silver fir beetle #'s up from 2007. MPB mostly in LP and heaviest in E. side Cascades. WPB – 60,000 acres- up; Ips going down. DFB down a bit from 07, SB down but still heavy in NC WA. WBBB is down. FEB is down. Getting some media and inquires about Canada MPB spreading south to the U.S. **Andy** – MPB in south central Oregon is getting a lot of media attention with fly-over trips with the Governor.

Rob – MPB in OR has 500,000. Damage centers in LP, but spillover onto PP and 5-needle pines significantly increasing. Limited bark beetle mitigation funds are being focused on PP adjacent to outbreaks. DFB and FEB damage down regionwide, but higher in NE OR. Increasing SAF mortality more related to BWA than WBBB. Significant blowdown events along the north coast may increase future DFB in NW OR.

R-8

Bob R. John Nowak. SPB still low. GA salvage removal 1300 acres. Very quiet in the South. Handout – PSR success. 680,000 acres since 2003 for \$67,831,000; \$99/acre treatment for SPB.

R-10

John – Spruce beetle activity mapped at 70,000 acres statewide: down from 150,000 acres aerially mapped last year. *Ips perterbatus* activity up in 2008.

Roger – no MPB. Survey ¼ of forestland each year. 1.6 MA for all forest pests this year based on 38 MA surveyed.. 60,000 acres of new *Ips perterbatus* activity mapped, primarily north of the Alaska Range in Interior Alaska white spruce (also in black spruce) and Lutz (*Picea lutzii*) in south central Alaska. Increases in *Ips* activity seen from “recent” climate warming and increased incidence and severity of natural wildfire in the Interior. Challenging to map direct bark beetle mortality since spruce beetle is occasionally mixed with *Ips* engraver in some stands. *I. perterbatus* is less common in SE Alaska mostly limited by the wetter, cooler climate. Seems to have taken over for spruce beetle. *Ips* project – Management of White Spruce slash to minimize infestation by the N. Spruce Engraver (*Ips perterbatus*) in Interior Alaska (preliminary results provided in summary chart; expanded *Ips* slash management research and demo project planned for 2009-2010 subject to USFS funding approval). Summer 2008 FHM Evaluation Monitoring project looked at larch mortality risk factors associated with a late 1990’s-early 2000 larch sawfly (*Pristiphora erichsonii*) outbreak across the known extent of eastern larch in Interior Alaska. Initial stand exams estimated 35% eastern larch beetle (*Dendroctonus simplex*) mortality in stands with moderate to heavy defoliation by the larch sawfly.

CANADA

No report. Alberta populations - two cold periods not affected yet. But may have helped. MPB is halfway across northern Alberta now.

Updates:

Bob Rabaglia –National

EAB – good year showing up in MO, WS, N. Virg, purple traps finds. N. Virg – near DC been there for several years, not doing anything, WS- Chicago area – not doing anything other than regulatory quarantine work. APHIS will work on small new infestations. FHP will probably get involved with the management. Ash removal, reduction, etc. 2009 Aphis surveys out 50 miles from last year. Use manuka oil lures in purple sticky traps for national survey. Phoebe oil (from Brazilian walnut) also good attractant but more expensive than manuka oil. Stressed hardwoods produce sesquiterpenes which are mimicked by manuka or phoebe oil. Green traps in high canopy capture more beetles than purple traps while purple traps near the ground capture more beetles than the green traps. Bio control for EAB larval ecto-endo parasites short term promising. Preliminary work in 07 & 08.

ALB – MA new find that has been there quite awhile 66 sq. miles. APHIS has been put in 50 million dollar federal request – inject with Imidicloprid within ½ mile of infestation.

2009 Proposed Funding for BB projects – \$8,684,000 total. Continuing resolution until March. R-8 = \$8,400,000 for SPB
Funds in SPFH, SPCH and Fire Plan budgets
STPD = \$800,000 and EM = \$700,000
Gypsy Moth suppression - \$13,000,000
EDRR- Pilot Project 2001-2006
-Developed protocols
- 5 new N. American Spp.
National implementation 2007- \$700,000/yr
- 1/3 of states each year
- 2008 ‘new finds’
- ME,VT,CT,RI,PA, DE, WV,
TN,AR,OK,IL,WI,ND,SD,KS,IA,WY,MT,NV,AZ,HI slated for 2009

Discussion about concerns of how the proposals and selection process work. Priority and specifics review process with committees not flowing smoothly – maybe an agenda item for the future. Tech Working Group priorities need to go to National Level – broken right now STPD Steering Committee Agenda Item.

Chris Fettig-

WBBRG- 2006 executive leadership wanted research team development in regions – so Western Bark Beetle Research Group developed in 2007 in Stevenson, WA. Research had 10 entomologists in 2007 and now down to 8.5 people in 2008. Portland SAF

Symposium well received – PNW GTR proceedings will come out – Forest Health Conditions in the West, Veg Mgmt, BB Influences, Climate Change, BB and Wildfire, Semio-chemical mgmt in West chapters to be done. Also a paper, USFS BB Research in the West, to be published in Journal of Forestry. Also Western Wildland Environmental Threat Assessment Center – Climate Change and BB document on their website: [www/fs.fed.us/wwetac/forestproducts](http://www.fs.fed.us/wwetac/forestproducts)

Discussion about dwindling research staff numbers concerns and making sure these staff attend our BBTWG meetings with funding.

Iral – FIDLS – Handout

www.fs.fed.us/r6/nr/fid/wo-fidls/

Revisions, planned new ones reviewed. Standard format – Kathy Sheehan is the National Coordinator for the FIDLS. – all FIDLS are available in pdf format now. The website lists the FIDL contact for each Region, as well as the status of the FIDLS. **Amy**- Brennon and Kathy working on the organization. And all on Amy's website as well. MT is printing them as well themselves.

Western Forest Insects Revision – Handout – website look-

<http://www.fs.fed.us/r6/nr/fid/wfi/index.shtml>

Revision - not a whole rewrite! Handout showing examples of re-writes. Iral would like any help she can get. Common Names linked to revision, so information obtained during a common names submission can be used in the rewrite.

Brytten – Common Names:

1. Need editors for Western Forest Insects Revision
2. Supporting WFI revision

Sheri –

FHTET \$ for this group – 6 proposals last year and two selected – Flowers, Strom – see posters;

Posters brought:

1. Distribution and Flight Periods of the California Fivespined Ips (*Ips paraconfusus*) in the Willamette Valley of Western Oregon. Flowers, Robbie W & Elizabeth A Wilhite
2. Efforts to reduce mountain pine beetle attack in lodgepole pine using verbenone. Robert Progar
3. Evaluation of Systemic Emamectin Benzoate for Pines from Bark Beetles. Strom, B.L.; Smith, S. L.

For FY 09- with CR this year – not expecting much of anything this year so holding off right now.

FINDIT- Munson takes stand info and models outputs based on existing conds for I&D . FHTET is working with them on this. Brytten working on this with Liz. Using risk map models, fire models, etc and add GPS/GIS functions. Barb – Built an old C program code for infested trees that is now being used but needs updating very simplistic right now. Can get the old program off Barbs website. Utah State Univ. Predicts mortality over 10 year period. Estimate \$33,000 to update it, so need buy in from other states to make it worth it.

John is Chair of I&D SAF meeting in Reno – Rob Progar – Insect and Disease in a changing world symposium from speakers from across the US. Whitebark Pine – MPB 30's outbreak with current outbreak. Change in range in SPB. Will have a working group after the symposium. R-5 posters will be presented there.

EM or STPD projects submissions? – Sheri and Barb submitted project to follow up MPB ecology. Ken and Sandy submitted project for WBP MPB leftover stands eval for restoration. Joel EM Fire \$ for PP and DF fuel loading request. Darren submitted a proposal as well. Gold spotted oak borer proposal, Bristlecone pine root disease black stain RD proposal.

2011 Risk Map no comments.

Iral-Beth – WIFWC-March 23-26th at the Davenport Hotel in Spokane, WA. Theme: Insects and fire and climate change focus. Jeff Fidgen and Tom Eckberg are in charge of the poster session so let them know if you have any. Andy Eglitis and Rob Flowers are in charge of the graduate student sessions.

The WFIWC will be hosted in Flagstaff, AZ in 2010. See the website. Steve Munson wants a Founders Award – you do not have to be retired to receive an award.

The North American Forest Insect Work Conference will be in Montreal in 2011.

Barb-Integrated Control of Scolytids Work Group last week of Sept 2009 in Jackson Hole, WY. Worldwide group.

Steve Munson:

History of BBTWG – Pat, Ken and Steve were charter members. Really was a Semiochemical meeting. 1988 started with 15 people. What would make this more meaningful? Maybe put Regional Reports on the table next year. What do we want to expand upon? Research needs - Discussion about what is important for each other –

research priorities, condition reports, verbenone research, etc. Suggested that email smunson@fs.fed.us on suggestions to make the meeting more meaningful for attendees.

Next year meeting – **Joel McMillian** of R3, Arizona FHP Field Office will host in AZ next year.

Field Trip to Angora Fire and JPB in the afternoon.

BARK BEETLE TECHNICAL WORKING GROUP MEETING ATTENDEES
South Lake Tahoe, CA
October 21-22, 2008

47 ATTENDEES:

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