

Bark Beetle Technical Working Group
Comfort Suites, Taos, New Mexico (505) 751-1555
October 23-24, 2001

Tuesday, 10/23

- 8:00- 8:15: Welcome, house keeping items, review and modify agenda
(Randall)
- 8:15 – 8:30: Revisit determination of BBTWG leadership (Randall/ Rogers)
- 8:30- 10:15: Progress reports on existing bark beetle related STDP's (Handout)
Review of the STDP evaluation criteria (Handout), discussion
Brief descriptions of proposed bark beetle related STDP's in '02
- 10:15-10:30: BREAK**
- 10:30-12:00: After The Fires:
Round Robin Discussion of Activities Related to Fires by
Region
Review of fire related priority questions identified in 2000
(handout)
- 12:00- 1:30: LUNCH**
- 1:30 - 3:00: Status of Bark Beetles by Region (each Region will have 10- 15
minutes to cover latest developments in bark beetle populations.
There will be time to discuss specific projects later in the meeting.)
Region 3 has been asked to specifically address
Southern Pine Beetle and Roundheaded Pine Beetle status
- 3:00 – 3:15: BREAK**
- 3:15 - 4:15: Status of Bark Beetles by Region (continued)
- 4:15 – 4:45: \$20,000 for a project of our choice
Where money comes from and expectations (Thistle)
Brainstorming project ideas (to be typed up and distributed)
- 4:45 – 5:15: Where Could We Be in 3-5 Years with Pheromone Technology
and How Do We Get There? (Thistle)
- 5:15: Adjourn**

7:30 – 9:00: EVENING SESSION- Formation of a committee to work on development of a strategic plan for BBTWG. Copies of old strategic plans will be distributed and how to proceed will be determined. Identified strategic plan components at 2000 meeting include:

Prevention

Education

Fire/ Bark Beetle Interactions

Monitoring

Suppression

Others for consideration- Landscape Level Planning

Wednesday, 10/ 24:

8:00 – 9:30: Beetle Specific Projects (Pheromone projects have their own spot on the Agenda)

Spruce Beetle Projects (Hansen)

Demonstration of the Southern Pine Beetle Control Center
(Clarke)

Mountain Pine Beetle work with Seybold (Eager)

Bark Beetle Attack in Spruce Residuals After Harvest vs.
Attack Dynamics in Adjacent Unharvested Blocks
(Burnside)

9:30 – 10:00: Bark Beetle Pheromone Project Updates

Microencapsulated Spray Pheromones (Rappaport)

Baiting Offsite Ponderosa Pine and DMT DF (Randall)

Temperature Data as it Relates to Bubble Caps (Holsten)

Ips Pheromone Characterization Study (Tok and Granite
Creek) (Burnside / Holsten)

Metacel work (Fettig and Munson)

Challenge Experiments Using Verbenone and Non-Host
Volatiles (David Wakarchuk)

Green Leaf Volatiles (Kegley, Gibson, Their)

10:00-10:15: BREAK

10:15 – 11:30: Bark Beetle Pheromone Project Updates (con't)

11:30- 1:00: LUNCH

1:00 – 2:00: Further discussion of proposals submitted for \$20,000.
Opportunity for questions to be answered.

- 2:00 – 2:30: Bark Beetle Modeling Update- the latest on landscape level hazard rating, the west wide pine bark beetle model and landscape level assessments (Randall (Red River), Eager (Piney), E. Smith)
- 2:30 – 2:45: International activities related to bark beetles (Munson)
- 2:45 – 3:00: Update on the Western Forest Health Directors' Communication Team; Copies of White Paper- S. Smith
- 3:00- 3:15: BREAK**
- 3:15 – 3:30: Vote on \$20,000 project
- 3:30- ?:
Discussion on how to proceed with development of strategic plan
Identified Strategic Plan Components
Brief Discussion with Group on Each
Solicitation of volunteers to draft/ review document
- ???? Adjourn (no later than 5:00)**

BARK BEETLE TECHNICAL WORKING GROUP MEETING

Taos, New Mexico
October 23-24, 2001

The somewhat annual meeting of the Bark Beetle Technical Working Group convened at the Comfort Suites in Taos, New Mexico, on October 23-24. Chaired by Carol Randall, the meeting was called to order at 8:00 a.m., Tuesday October 23.

Local Arrangements Chair, Terry Rogers, welcomed everyone to the sunny Southwest, and described the attractant features of Taos—Kit Carson's home, the Taos Pueblo, shops and dining establishments.

About 30 hardy souls made the trek across the desert to meet—from as away as Anchorage and Atlanta, to as near as Flagstaff. Most western FHP regions were represented as well as research and state agencies. In attendance were:

R-1: Carol Randall, Sandy Kegley (Cd'A); Ken Gibson (Msla)
R-2: Roy Mask, Tom Eager (Gunnison), Jeff Witcosky (Lakewood)
R-3: Deb Allen-Reid, Terry Rogers (Alb); John Anhold, Joel McMillin (Flag)
R-4: Steve Munson, Liz Hebertson (Ogden); Ralph Thier (Boise)
R-5: Sheri Smith (Susanville)
R-6: Dave Bridgwater, Roger Sandquist (Portland); Paul Flanagan, Connie Mehmel (Wenatchee)
R-8: Wes Nettleton (Atlanta); Steve Clarke (Lufkin)
R-10: Ed Holsten (Anchorage)
PSW: Bob Borys, Chris Fettig (Davis); Nancy Rappaport (Albany)
RMRS: Jose Negron (Ft. Collins); Matt Hanson (Logan)
SRS: Brian Strom (Pineville)
FHTET: Harold Thistle (Morgantown); Eric Smith, Andrew McMahan (Ft. Collins)
Phero Tech: Dave Wakarchuk
AK: Roger Burnside

After going over the agenda, Carol immediately began a discussion of next year's meeting! In a departure from the time-honored tradition of the current year's host being next year's chair, Carol announced that next year's chairperson will be Joel (who decided to fill in for Terry). Then Ed offered to host in Alaska! None of us could refuse such a magnanimous offer. Later learned the specifics: **Next year's meeting will be September 10-12 at Land's End Resort in Homer, AK.**

STDP Selection Process: Jumping right into agenda items, a discussion ensued relative to the STDP selection process and the role of the BBTWG in that process.

John Wenz, the insect management technical committee's representative in the STDP process, suggested (in absentia) that the bark beetle steering committee could/should have

more of a role in the priority setting process for the selection of STDPs. Input from the bark beetle technical working group could be as simple as developing a list of priority technology development topics, from bark beetle management perspective, to input on specific STDP proposals.

There was a fair amount of concern about prioritizing individual STDP's. Many in the group felt that this would be a step backwards and would give members attending bark beetle technical working group an advantage in the STDP process. The group tabled further discussion on input into the STDP process until the next meeting.

After discussing the STDP process, attendees at the meeting with ongoing bark beetle related STDP's gave a brief update (see Appendix 1). Tom Eager (R2) gave an interesting update on an analysis of MPB attractant effectiveness and the addition of adding "terpinolene" to standard attractants. He also mentioned work going on in mass rearing of clerids as a possible means of reducing outbreak populations of bark beetles.

After the Fires: Round robin discussion of fire-related activities. Mostly covered the fires of 2000, but there were a few notable ones in 2001 as well.

R-5: Sheri noted there are some strained relations between the Fire folks and FHP in R-5. Trying to help develop marking guides for fire-damaged trees, based on amount of crown scorch and bole damage (as sampled by removing small sections of bark to check on condition of cambium in spots at base of tree). Learning more about the influence of duff layer, how long fire burns there, and resulting damage to tree's root collar. Noting strong correlation between amount of damage and presence of bark beetles.

R-3: Terry reported work in following survival of fire-injured trees. They notice about as much damage from woodborers and resulting woodpecker damage as they do bark beetles. In R3 no chopping into tree to check on condition of cambium because of concerns about further injuring tree.

R-1: Ken, Carol and Sandy discussed some of the on-going work in evaluating bark beetle presence and potential in areas burned in 2000. They have high DFB populations in some parts of western MT. Passed out brochures and report prepared last fall.

R-4: Liz noted some plots they have established following fires—monitoring survivability and bark beetle population buildups.

R-10: Ed reported the tremendous buildups of fuels following their extreme spruce beetle outbreaks. They are working on refining fire behavior models due to abnormal amounts of fuel.

R-2: Joel indicated that they have seen a large population of bark beetles (mostly *Ips*) following fires of 2000 in the Black Hills. Also, Regions 1, 2, and 3 began a 3 year

project to develop marking guidelines following wildland fires and subsequent insect attack in ponderosa pine forests.

Several noted the often-observed relationship between fire and subsequent bark beetle outbreaks, though some regions mentioned that in their areas, bark beetle attacks did not usually increase post fire.

Also discussed the need for more standardization in developing marking guides for salvaging fire-damaged and beetle-threatened trees. Sheri Smith has over 1000 marked trees that she has been following for a number of years post fire. The data that she has collected has been very important in supporting marking guidelines. Just what to monitor on marked trees is also something that has not been standardized making comparison between post fire studies conducted in different regions difficult. The group agreed that would be a good topic for next year's WFIWC. Joel and Sheri will survey forest managers in the West to summarize what current marking guidelines are being used. The results of this survey will be presented at WFIWC.

Status of Bark Beetles—Regional Reports:

R-1: Tremendous buildups of MPB in LPP in MT and ID; building populations in PP in MT, and significant outbreaks in WBP in northern ID. Total infested area this year (all species) will exceed 200,000 acres. Still have high DFB populations—especially in western MT in areas affected by fire in 2000. Infested acres total more than 180,000 Region-wide. There are still more than 34,000 acres of WBBB-infested SAF stands. Other bark beetles are occurring, but are of lesser importance.

R-2: MPB outbreaks in LPP in CO and PP in SD. There are serious outbreaks of ESB in WY and parts of CO. DFB populations are still high in the Shoshone River Drainage of Wyoming. *Ips* populations are high near burned areas and MPB-infested PP stands in the Black Hills. Starting to use GPS to track outbreaks. Tom also noted that there was considerable support for FHP during a tour of Congressional staffers in R2 R2 worked hard to represent the West during the tour. Senator Campbell requested information on bark beetles and Steve Munson et al. produced a report.

R-3: Bark beetle activity in pines in central Arizona is increasing dramatically—primarily *Ips*, possibly roundheaded and western pine beetle. In southern Arizona the southern pine beetle outbreak is declining in some areas, but a mix of southern pine beetle and Mexican pine beetle are killing large pockets of Apache and Chihuahua pines in other drainages of the Chiricahua Mountains. Spruce beetle in SE Arizona is increasing, and getting spruce beetle on ski hills near Flagstaff. In New Mexico most of the bark beetle activity is endemic with the exception of *Ips confusus* taking out pinyon pine. New Mexico has been in a winter drought for 5-6 years now. Also seeing unusually high amounts of twig beetle damage in all size classes of pinyon pine.

R-4: In southern ID, significant MPB outbreaks in LPP and WBP. The mountain pine beetle is in new areas than when it last was active in the 1980's. DFB populations

are also building in fire-affected areas of 2000. There is some WPB damage in PP stands, and spruce beetle is building.

Drought in UT is contributing to ESB outbreaks that now cover more than 175,000 acres. On the Dixie NF, Cedar City RD, the spruce beetle is beginning to run out of host. MPB outbreaks also increasing in PP stands in southeastern UT and LPP stands in western WY and in the Uinta mountains in northern Utah. Higher DFB populations also widely scattered throughout the host type in western WY. *Ips*-caused mortality in pinyon is noticeable in NV and southern Utah. WBBB and FE populations effect scattered clumps of trees where the host type occurs.

R-5: RTB killing pinyon trees in burned areas. Much of the beetle mortality is tied to drought. Populations of MPB in PP and JPB in JP noticed around the Region. WPB outbreaks are important in central and northern CA. JPB outbreaks in northern CA appear to be drought related. *Ips pini* mortality is way up and killing large-diameter JP and PP in drought-affected areas. Seeing 100-150 dead tree groups, very unusual.

R-6: MPB outbreaks exist in LPP stands in northern WA, also suspected populations of silver fir beetle. ESB outbreak north of Winthrop covers more than 250 square miles. DFB still in northern WA and *Ips* are found killing PP in some areas. In OR, MPB outbreaks are prevalent in LPP stands in the central part of the State, also affecting some PP stands. Also noting some *Ips*-caused mortality in LPP. DFB populations are still high and increasing in DFTM-defoliated areas.

R-8: SPB still very active in the South—infesting more than 500,000 acres in the last few years. Southern pine beetle is hitting trees in the suburbs of Gainesville, FL. Region has developed a “SPB Initiative”—released in June '01, will administer most SPB-related activities out of the Regional Office in Atlanta. This initiative is a Congressional behest, and will involve \$100,000,000 in year 1 and \$120,000,000 through year 5. The hope is that this will end up being a 10-year program. It is scheduled to begin in FY 2003. (Sheri noted there is support for a similar effort covering bark beetles in the West.)

NA: No report.

R-10: Roger Burnside reported on conditions in AK. Spruce beetle (*Dendroctonus rufipennis*) acres did increase in 2001 over last year (86,038) to 104,098 acres of new infestation observed across 22 million acres flown. To put this acreage in perspective, the peak of the spruce beetle epidemic was in 1996: 1.13 million acres mapped. However, spruce beetle activity has not dropped off completely. Nonetheless, we are in the 13th year of the spruce beetle outbreak on the Kenai Peninsula with several hotspots of infestation that appear to be maintaining themselves. Engraver activity decreased from 23,000 acres detected in 2000 to less than 30 acres detected in 2001. The scattered *Ips*-caused tree mortality was concentrated in Interior Alaska where *Ips* infestations occur primarily along river floodplains and areas disturbed by past erosion, spruce top breakage (e.g., snow loading), harvest, or wind.

An unidentified bark beetle killed 56 acres of subalpine fir in the Skagway River drainage. There is a good possibility that this beetle could be the western balsam bark beetle, *Dryocoetes confusus*.

Bark Beetle Projects:

ESB: Matt Hansen discussed the on-going work in the ESB outbreak in CO. Looking at 1- versus 2-year life cycles—noticing differences based on temperatures experienced during larval development. By mapping temperature regimes, they are able to predict, over a landscape, where 1- and 2-year populations should exist. Also looking at those relationships in UT.

Paul Flanagan described the ESB outbreak north of Winthrop as the largest ever recorded there. They (assisted by grad students from UW) are looking at life cycle variations and response to varying doses of MCH.

Steve Munson talked about a joint remote-sensing project with the Nationwide Forestry Applications Program in Salt Lake City in which they are attempting to evaluate the utility of IKONOS imagery to detect recent and older spruce beetle caused mortality on the Kenai Peninsula in Alaska. Preliminary assessments indicate they can detect “heavy” and perhaps “moderate” mortality on the satellite imagery. It is difficult to detect fading trees on IKONOS imagery. A publication will be drafted of the results of 8-year study looking at ESB flight periodicity for southern UT. Also investigating “fall rate” of beetle-killed ES using a series of permanent plots established on the Dixie NF. Relatively few beetle-killed trees (<2 percent) have fallen over 5-6 years after spruce beetle attack. Also comparing 2- and 3-component trap lures—catching about twice as many beetles with 3-component lures. Darrell Ross is drafting a journal publication to document our findings on the Dixie NF.

Roger noted they are finding ESB in leave trees following harvests in AK. Seems thinned stands are not holding up well when beetle populations are high, but do much better at lower population levels. Thinnings may be more effective if done before beetle populations reach outbreak levels.

SPB: Steve Clarke demonstrated the “SPB Internet Control Center” (www.spbicc.vt.edu). Apparently everything anyone ever wanted to know about SPB is available on that website! Described as very “user friendly”—contains old information (reports), infestation status, workshops, etc. Also has links to other organizations working with SPB.

Chris described single-tree protection work he had done in the SE before going to PSW. Looking at pyrethroids, but still using lindane operationally. Testing “micro-encapsulated” chemicals, but not much luck with verbenone in that formulation.

Brian talked about SPB projects involving host growth rates and natural defenses (the ability to produce resin flow detrimental to invading beetles).

MPB: Tom discussed their use of Astro as a preventive treatment in PP stands. Getting good one-year protection.

Joel has also successfully used Sevin and Astro to produce "lethal" trap trees in the first year after spraying. In the second year after spraying, many of the Astro trees were successfully attacked, while none of the Sevin trees were successfully attacked.

Pheromone Projects:

Jose: Described some WBBB flight studies he is helping to conduct in CO. Peak flights appear to be in mid-July and probably 2-year life cycles. Also looking at varying attack positions on the tree.

Joel: In related WBBB studies, they are looking at attacks on baited and unbaited felled trees in Wyoming. Trap catches suggest peak flight in early July with a second peak later in the summer. Both baited and unbaited felled subalpine fir were colonized by WBBB. Studies are continuing.

Nancy: Studies with micro-encapsulated (MEC) pheromone "sprays." "Sprayable" formulations of verbenone comprised of beads, 25 microns in diameter, in a water suspension. Possible to adjust release rates of the beads, and may be able to encapsulate other pheromones. She has done some work with 4AA and results were promising. She has been conducting verbenone tests in Mexico against RTB, may be trying on RTB populations in China. So far, results are about as good as achieved with verbenone bubble capsules in B.C. May consider trying MCH in MEC formulations. Hope to do additional testing in U.S. against other bark beetles in 2002.

Carol: Described a project using WPB and DFB tree baits in an effort to kill off-site PP and mistletoe infected DF, respectively, in central ID. In 2001 had pretty good success killing the off-site PP, but less success pulling beetles into mistletoe-infected DF trees. It is possible that too much pheromone was deployed in the vicinity of the mistletoe infested DF trees resulting in less than lethal attacks (all baited trees had pitch tubes, just not attacked sufficiently to result in mortality).

Ed: Discussed project they are conducting in AK, using verbenone bubble caps in an attempt to keep *Ips perturbatus* out of logging slash. This beetle is a major tree killer in central AK, particularly damaging in stands that have been thinned or salvage logged after spruce beetle outbreaks. First attempts to identify anti-aggregating compounds showed verbenone and conophthorine were promising. Could mask attraction of aggregating compounds in traps, but could not prevent attacks in slash. Appeared the high temperatures experienced in slash resulted in too rapid elution of verbenone. (Similar results were experienced in *Ips pini* tests in MT and ID a few years ago.)

John/Steve M.: Investigating the properties of "Med-e-Cell" releasers for bark beetle pheromones in place of standard bubble capsules. Found elution rates more consistent and not as temperature-dependent as bubble caps. Tested MCH in Med-e-Cell releasers to mask attractiveness of ESB lures in funnel traps. MCH in bubble caps were effective,

but got good results with Med-e-Cell release devices. Ed had similar results in AK. Med-e-Cell devices are battery-operated and cost about \$3 each.

Dave W.: Described some of the verbenone work done by Borden and others in B.C. Testing anti-aggregating properties as formulated in both bubble capsules, pouches, and in combination with blends of non-host volatiles (alcohol, aldehyde, and guaiacol) in preventing attacks by MPB in LPP. Best combinations appeared to be verbenone pouches and NHV blends.

Sandy/Ralph/Matt/Ken: Detailed a 4-area study done in 2001. They were attempting to prevent MPB attacks in WBP in two areas (Sandy/Ralph) and two others in LPP (Matt/Ken). The WBP sites were in northern and central ID; one of the LPP sites in central ID, the other in western MT. In all areas they tested three treatments: (1) 40 verbenone pouches per acre (about a 30' x 30' grid), (2) pheromone "blends" of verbenone, alcohol, aldehyde, and guaiacol bubble capsules, and (3) no treatment. All plots were baited with MPB lures in a funnel trap at plot center. Plots were 1 acre in size. In the WBP stands there were 4 reps of the 3 treatments; in the LPP stands, 6 reps. In most areas, verbenone pouches provided best protection. Blends were better than no treatments, but not as good as pouches alone. Most pronounced results were in LPP stands in western MT.

Ken/Ralph: Reported on use of verbenone pouches to prevent high-value trees (LPP-Ralph; WWP-Ken) from MPB attack. Ralph's uses, done with Rob Progar, constituted a "test"—Ken's a quasi-operational effort to protect WWP "plus" trees. In both areas, central ID and northwestern MT, results were promising. A few of the LPP treated with verb pouches were attacked, but "area" protection was much better than in the untreated area. In the WWP stands, of 25 trees treated with 2 pouches each, none were attacked by MPB in 2001. Attacks on untreated trees were observed in those stands.

Ken: Described an "aerial" application of MCH-impregnated beads to prevent DFB attacks in DF stands in northwestern MT. Tested against standard application rate of 30 MCH bubble caps per acre. Beads (4% MCH loading) applied at rate of 4 pounds per acre. A third non-treatment provided controls. Plots were 5 acres each. Each treatment was replicated 4 times to randomly selected plots. Bubble capsules were stapled to trees at about a 40' by 40' grid. Beads were applied with hand-operated fertilizer spreaders. All plots had a funnel trap at plot center baited with weak DFB lure. Results showed no new attacks in either MCH treatment, and an average 7 new attacks per acre in untreated plots.

Ken: Also reported on an MCH individual-tree protection test done in northwestern MT. He and Darrell Ross selected 4 replicates of 12 pairs of susceptible DF in areas where DFB populations were high. Each of the 48 trees were baited with a "weak" DFB lure. A randomly selected tree in each pair was treated with 4 MCH bubble capsules, applied at about 10 feet high (using Hundel hammer), one to each quarter of the bole. Results following beetle flight showed all trees not treated with MCH were heavily attacked. Three MCH-treated trees had unsuccessful attacks. None were attacked successfully.

FHTET's Offer to Fund Pheromone-Related Work in 2002:

Discussion of proposals to take advantage of FHTET's offer to support pheromone-related work in 2002. (The Verb Pouch/GLV studies done in R-1/4 in 2001 were funded by FHTET.) Proposals included:

- * Individual tree protection using synthetic pyrethroids
- * Micro-encapsulated tests using both MCH and verbenone
- * Additional tests using verbenone pouches
- * Aerial application of beads using MCH and/or verbenone

A consensus of the group was that funds could best be used to further test pyrethroids for individual tree protection. At the conclusion of the meeting, Tom Eager (R2) was asked to apply for those funds and determine where to conduct additional testing in 2002.

Harold Thistle agreed to help Nancy Rappaport and Ed Holsten find some funding mechanism to accomplish the proposed Micro-encapsulated tests using both MCH and verbenone.

Update on West-Wide Pine Beetle Model:

Eric and Drew demonstrated the status of the WWPB Model and described its use in two "operational" modes—one on Red River RD (ID, R-1) and the other on Piney RD (CO, R-2). Model has been linked to FVS and can grow stands into "susceptible" conditions over time (at 5-year intervals). Then as stands increase in "hazard" beetle outbreaks are generated and potential beetle-caused mortality is displayed. Approaching operational status but still needs to be validated. FHTET is willing (anxious!) to try it in other areas. Believe it is only operating with MPB in LPP at present.

Western Forest Health Communication Team:

Sheri discussed her involvement at the FHP Staff Director's meeting in March and her presentation regarding FHP activities in the West. Of particular interest is our interaction with the National Fire Plan. Some concerns are:

- FHP involvement with implementation of National Fire Plan
- Strategy and budgets necessary to improve forest health conditions in the West
- Involvement of Western Forestry Leadership Coalition

International Activities:

Steve M.: Discussed his and Jose Negron's work with a group of visiting foresters from Lithuania and Poland and their efforts to develop a hazard-rating system for *Ips typographus*. Steve and Jose has demonstrated systems used in the U.S. and are developing a hazard rating technique that can be used in both countries. Data collection plots have been established in each country and Steve and Jose will assist them in developing hazard-rating techniques once data is available.

Bob/Sheri: Described their work this past year in China, helping to determine the extent of RTB infestations and applicable control measures. They were assisted by Pat Shea. Beetle problem is severe in both introduced and native pine stands—and the beetles themselves may have been introduced as long as 20 years ago. Interesting in that there, beetles infest roots well below ground level. That is seldom observed in the U.S. They are currently using malathion to control populations, but are interested in alternatives: other insecticides, silvicultural means, etc. Extreme population levels appear to be at least partially related to drought. They are continuing to assist.

Steve C.: Has assisted in evaluation and control efforts against SPB in Honduras. Outbreaks are currently severe, both in Honduras and Nicaragua. U.S. is continuing to provide assistance.

WO “Pheromone Initiative:”

Harold solicited suggestions for research needed to reach a “desired future condition” relative to pheromone technology. Where would we like to be in 3-5 years? FHTET would like for us, collectively or individually; to provide ideas, proposals, projects, etc. to help answer some of the more imposing questions regarding bark beetle pheromone data gaps and usage. Send thoughts, suggestions, or ideas directly to Harold.

Strategic Plan Discussion:

The last strategic plan that was completed for the bark beetle steering committee was in 1995. The question has been asked if a strategic plan for the bark beetle technical working group is really necessary. Much discussion followed about what a strategic plan should look like, what it may provide for the group, and was it really necessary. Looking at the strategic plan in 1995 it was not so much a strategic plan as a list of projects. The group discussed the need to look over the 1995 plan and look at the projects and determine whatever happened to them. To that end, each region identified a person to look through the 1995 strategic plan document and determine the status of projects described as being completed in their region. The regional representatives would then report back to Terry Rogers (R3) by Feb 15, 2002. Regional representatives are:

Region 1: Carol Randall	Region 2: Tom Eager
Region 3: Terry Rogers	Region 4: Steve Munson/ Ralph Their
Region 5: Bob Borys/ Sheri Smith	Region 6: Roger Sandquist/ Dave Bridgewater
NA: No one present	Region 8: Wes Nettleton
R10: Ed Holsten	

As far as the future of a strategic plan, that is also undecided. The bark beetle committee is not the only group to be struggling with this; the defoliator group is also considering revising their last strategic document. The defoliator group has developed a statement of purpose that the bark beetle group may want to review. A document such as the defoliator group’s statement of purpose may be an adequate replacement for a strategic plan.

Meeting adjourned at 4:00 p.m., Wednesday, October 24. To be reconvened September 10, 2002 in Homer, AK.

A list of handouts from the meeting that can be sent to you electronically is included in Appendix 3. Carol compiled electronic versions of handouts and will gladly forward them to you if you drop her a note.

Special thanks to Ken Gibson for his wonderful notes!

Appendix 1: Bark Beetle Related STDPS

Continuing Projects

Identifier	Title	Subject Matter	Contact
R1-2001-03	Landscape level assessment of Douglas-fir beetle outbreaks and development of a monitoring system for predicting local population trends.	Monitoring, models, population biology	Carol Randall (R1)
R1-2001-04	Using remotely sensed imagery to estimate mountain pine beetle-caused mortality in lodgepole pine forests of Montana.	Monitoring with remote sensing	Barb Benz (RMRS)
R2-2001-01	The role of wildland fire and subsequent insect attack on ponderosa pine mortality.	Models, monitoring, and risk	
R3-95-01	Mountain pine beetle susceptibility / risk rating in southwestern ponderosa pine.	Risk rating system	Jill Wilson (now R1)
R4-2001-02	Development of a monitoring and management tool for the Central Rocky Mountain populations of mountain pine beetle, <i>Dendroctonus ponderosae</i> .	Semiochemicals and monitoring	Tom Eager (R2)
R6-97-03	Testing pheromone-based methods for managing the Douglas-fir beetle at the landscape scale.	Semio-chemicals	
R6-2000-2	Predicting insect-caused tree mortality following prescribed burning in ponderosa pine communities of Eastern Oregon.	Silvicultural technology	
R8-97-02	Refinement and technology transfer of operational methods for suppression of Southern pine beetle infestations using Verbenone		Steve Clarke
R8-1999-01	The Southern pine beetle internet control center.	Population biology	
R8-1999-03	Development of a mass rearing scheme for the bark beetle natural enemy <i>Roptrocerus xylophagorum</i> .	Biological control	Steve Clarke
R8-2001-04	Evaluation of cool season aerial applications of Eliminate™ to enhance native parasitoids for biological control of Southern pine beetle.	Biocontrol and monitoring	
R8-2001-05	Development of trap-out methods for southern pine beetles from individual trees or small infestations	Biological control using semio-chemicals	Steve Clarke
NA-2000-02	Application of density management diagrams to forest health: an integrated approach to reducing adverse impacts of forest insects.	Native species	
NA-2000-05	Development of acoustic technologies to detect the Asian longhorned beetle.	Non-native; survey, evaluation, and monitoring	

Appendix 2: WESTERN NORTH AMERICAN DEFOLIATOR WORKING GROUP

Statement of Purpose

DRAFT- 11/19/2001

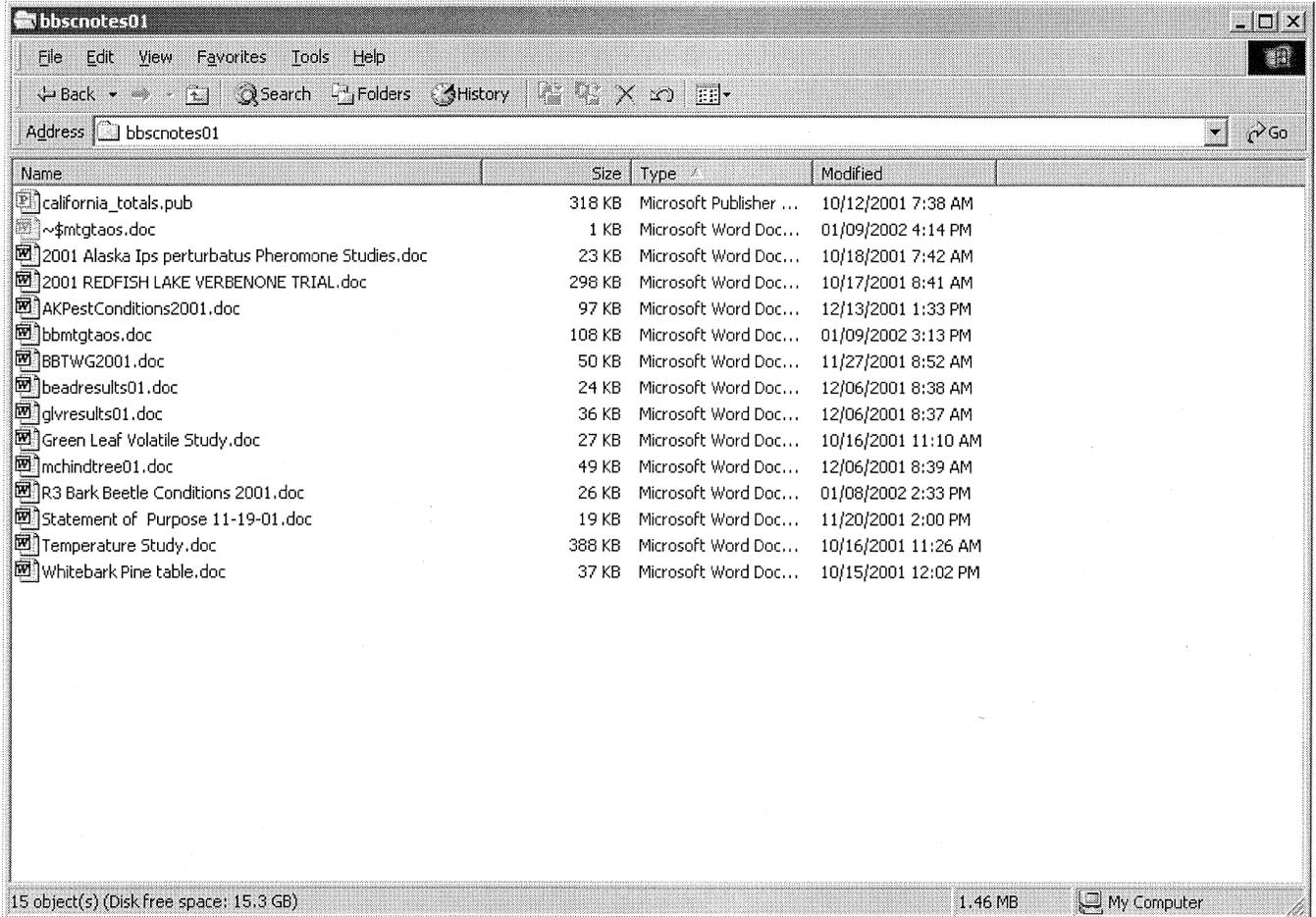
The purpose of the Western North American Defoliator Working Group (WNADWG) is to provide a means to address issues associated with western defoliator ecology and management. The WNADWG meets annually or more frequently as needed. The group is composed of professional forest pest management specialists, scientists and resource management specialists representing federal, provincial, state and local governments, universities and private interests.

Specifically, the WNADWG provides a forum to:

- 1) Discuss current defoliator conditions in western North America;
- 2) Identify and discuss issues and concerns related to western defoliator ecology and management;
- 3) Address short- and long- term research, technology development and management needs for western defoliators;
- 4) Communicate issues, concerns, recommendations, priorities and needs to appropriate entities.

Appendix 3: Handouts

At the end of the meeting Carol Randall asked folks to forward here electronic versions of their handouts so she could make them available to folks. A list of the handouts Carol received as of 1/8/2002 follows. If you would like copies drop Carol a note at crandall@fs.fed.us.



The screenshot shows a web browser window titled 'bbnotes01'. The address bar contains 'bbnotes01'. The main content area displays a table of files with columns for Name, Size, Type, and Modified. The status bar at the bottom indicates '15 object(s) (Disk free space: 15.3 GB)' and '1.46 MB'.

Name	Size	Type	Modified
california_totals.pub	318 KB	Microsoft Publisher ...	10/12/2001 7:38 AM
~\$mtgtaos.doc	1 KB	Microsoft Word Doc...	01/09/2002 4:14 PM
2001 Alaska Ips perturbatus Pheromone Studies.doc	23 KB	Microsoft Word Doc...	10/18/2001 7:42 AM
2001 REDFISH LAKE VERBENONE TRIAL.doc	298 KB	Microsoft Word Doc...	10/17/2001 8:41 AM
AKPestConditions2001.doc	97 KB	Microsoft Word Doc...	12/13/2001 1:33 PM
bbmtgtaos.doc	108 KB	Microsoft Word Doc...	01/09/2002 3:13 PM
BBTWG2001.doc	50 KB	Microsoft Word Doc...	11/27/2001 8:52 AM
beadresults01.doc	24 KB	Microsoft Word Doc...	12/06/2001 8:38 AM
glvresults01.doc	36 KB	Microsoft Word Doc...	12/06/2001 8:37 AM
Green Leaf Volatile Study.doc	27 KB	Microsoft Word Doc...	10/16/2001 11:10 AM
mchindtree01.doc	49 KB	Microsoft Word Doc...	12/06/2001 8:39 AM
R3 Bark Beetle Conditions 2001.doc	26 KB	Microsoft Word Doc...	01/08/2002 2:33 PM
Statement of Purpose 11-19-01.doc	19 KB	Microsoft Word Doc...	11/20/2001 2:00 PM
Temperature Study.doc	388 KB	Microsoft Word Doc...	10/16/2001 11:26 AM
Whitebark Pine table.doc	37 KB	Microsoft Word Doc...	10/15/2001 12:02 PM