

enclosure:

w/'98 agenda

1997 Bark Beetle Meeting  
Notes: Ken Gibson

Tuesday (Sept. 23):

- Status of MCH, Reardon representing Jack Stein - Information sheet, status still pending. Additional toxicity studies still being done. EUP for 98 should be granted (expires May 98). Where do we go from here? Letter to Ann Bartuska, Bob Bridges, NASF? Explore using a contractor to push registration through. Dick will discuss this option with Jack. FS will back out of registration process? Should compile story of MCH's development to document the process. Could be beneficial when other semiochemicals are proposed for registration. Contact Furniss? Letter from this group...to whom?

- STDP Process, Steering Committees, TAC, etc. The TDP process began about 1990. Steering committees established to guide the process. The Bark Beetle task force became a "steering committee". It officially organized in 1986. Directors decided steering committees should make recommendations only. A committee established to rank TDP proposals...using recommendations suggested by steering committees. Over the past few years, too many steering committees sprang up. Ann directed that TDP and steering committee process be reviewed. Eight people were on the review team, including Iral, Barb, & Jim Byler. Their recommendations and formal report issued April 97. One "Steering Committee", TDP review panels, and Tech advisory committees (five of these). TAC's not yet developed. Will try to meet in Dec. in Atlanta. We "bark beetle committee" will become a "tech working group". Patrice Janiga is "STDP" Project manager. In 97, each region is allotted 3 proposals and one exotic weed proposal. New "review" process in 97...that almost no one understands. Our group will still have some input....sort of.

## STATUS OF BARK BEETLES REGION

- R10: Ed Holsten, Spruce beetle still doing their thing. Finishing off last of susceptible stands on the Kenai. Fuel loads are increasing and some increasing populations of **Ips tridens**.
- NA: Reardon, no report.
- R8: Wes Nettleton, Southern Pine Beetle increased late. Florida, Georgia, Texas...increasing populations in other areas, but later than normal - predicated off a little in 98.
- R6: Dave Bridgwater, Not many problems - most species of bark beetles at endemic or low levels.
- R5: Sheri Smith, A few problem areas - some associated with fire. Jeffrey pine beetle in Lake Tahoe area still doing well.
- R4: Steve Munson/Ralph Thier: A little MPB, increasing in southern Idaho. MPB still increasing in some areas on Bridger-Teton and Targhee NF's. ESB still a tremendous problem in central and southern Utah. Populations are also increasing in northern Utah. Uinta NF's not heavily infested, recreation impacts in some areas are significant. Populations of roundheaded pine beetle in southern Utah remain fairly static. Subalpine fir mortality continues in localized sites.
- R3: Jill Wilson, (handout)...Ips, RHP, DFB and ESB are found throughout the Region at various levels. Beetles in ponderosa pine probably the largest problem. MPB populations are increasing around Grand Canyon. Fir engraver activity remains static.
- R2: Tom Eager, MPB, DFB and WBBB - several scattered populations around the Region. WBBB in western CO. DFB associated with fire and Spruce budworm. MPB along I-70 in LPP. Spruce beetle and arboreal toads, trapping - trying to control beetles...not sure how it's working.
- R1: Ken Gibson, MPB, DFB, ESB and WBBB populations remain active. Fir engraver increasing on state lands in northern Idaho.
  - Exotics - Bob Haack, produced an exotic beetle update. Provided handouts for group.

## PLUME MODEL - WARREN WEBB

Relative to elution rates of pheromones. Can help to determine most effective placement of pheromone releasers. Model will help to determine elution rate and direction. Combination of "Gaussian Steady State Model" and "Puff" distribution model. The latter shows pulses of plumes displayed as "puffs". Info for MCH bubble caps specifically. Warmer temps result in faster elution rates. Elution rates increases over time, except on warmer sites. On very cold sites, also varying rates. Model can help define both elution and dilution rates. Rate of plume movement in 3 directions and rate of spread. Measure horizontal and vertical spread rates. Can accurately measure movement (<1% error in 10m spread). The closer to the releaser the more accurate the prediction of spread. Potentially effective distance of a typical bubble cap about 300m. If we know elution rate, can design where to place bubble caps for a specific application.

## BARK BEETLE PROJECTS

- Arizona 5 spined Ips: nothing
- Calif. 5 spined Ips: Pat Shea, treatment strategies in Ponderosa pine stands (handout).
- DFB: Darrell Ross, Why is WL resistant? Amounts of 3-carene seems to be key.

DFB traps, effectiveness and predator catches.

DFB Push/Pull strategy, traps with MCH in large landscapes (Wenatchee and Nez Perce NF's)

Replacement for funnel traps?

Blowdown on the west side...DFB potential? MCH and other treatments?

Ladd Livingston, broken trees as habitat for DFB? Few in standing boles...micro-environment?

- Fir Engraver: Ladd Livingston, Graduate work has shown little if any, pheromone attraction for fir engraver. Attraction may be solely host

volatiles. Sherri Smith, difficult to predict beetle caused mortality based on amount of crown mortality.

**Ips perturbatus** - Ed Holsten, Attractant combinations (Ipsdienol and Cis-verbenol) worked well. Same combinations worked well for **Ips tridens**.

**Ips pini** - Ladd Livingston, Ralph Thier and Ken Gibson....Ips TDP for 1997, results were poor, didn't work.

### Wednesday (Sept. 24)

JPB - Pat Shea, Thinning studies established...control, 160, 120, and 80 ba in Truckee Calif. and Carson City Nevada. Will be cut in 1998.

MPB - Jill Wilson, Risk rating for SW ponderosa pine handout. Plots established and data collected. Beetle status will be included in the rating system.

Barbara Bentz, Data collected for the above plots on 45 sites in Regions 2, 3, and 4. 20 plots/site....900 plots total. Most sites (27) were located in Region 4. 20,000 tree records will read plots for the next 3 years. Indices of dispersion, looking at clumpiness factor. Factors that seem to be important - light/ SDI/BA, Trees per acre, Ponderosa pine BA, 8 inch DBH and growth rate. Studies of host preference indicate that environmental factors influence development.

RHPB - Jill Wilson, Hazard rating system developed by Jose Negrón. Indicators of attack: poor growth, smaller dbh, abundant host type (Handout).

SPB - Jane Hayes, List of studies, pubs etc., related to SPB in southern states. Still working with 4AA using sprayable formulations, etc. Trying to get 4AA registered...early, but some hassles. Forest Service is trying to work with Mississippi State University. 4AA has some carcinogenic properties, but very weak.

Steve Clarke, Verbenone tests...testing various elution devices, black vs white pouches. Black didn't perform very well. Late beetle flights prevented early season results....still evaluating August results. Although there appears to be some population reduction, results are mostly mixed at

this time in measuring differences in bubble cap placement. Poor bubble caps from Phero Tech....maybe?

ESB - Ed Holsten, "IR-4" project. MCH bubble cap tests....all treated and untreated plots hammered. Also evaluated green leaf volatiles (six), as a means of reducing attraction...specifically trap catches. Seems that GLV increase trap catches (MCH reduced catches). In other tests 4AA also increased trap catches...problem with Phero Tech products?

Thinning studies, cut to 50-60 BA...not much windthrow and low attack levels. 18 percent attack rate compared to 60 percent in checks. Probably doesn't work as well with high population levels. Carbaryl treatments protecting trees very well.

Barbara Bentz, Evaluating 1 vs 2 year life cycles. "Diapause" based on temperatures, temperature differences in individual trees may be influencing development?

Steve Munson, Silvicultural treatments...BA thinnings, success may be based on population levels. Need to move as quickly as possible to implement thinning strategies. Windthrow is a significant consideration, thinnings are planned for the Fishlake NF. Thin to 80, 100 and 120 BA.

MCH in campgrounds, may be some "area" effect, some indication of success. Carbaryl treatments have been very successful except on large diameter hosts where insects attack above treated boles. Suppression study in Logan Canyon on Wasatch-Cache NF using salvage, trap trees and funnel traps. TOMMICUS - Bob Haack, provided handout describing what's occurred...quarantine regs, etc.

WPB - Pat Shea and Sheri Smith, TDP to reduce mortality using verbenone and ipsdienol. Beetles just beginning to fly...results will be provided later. Bubble caps...grid vs perimeter placement. Previous tests have been inconsistent. Five acre plots were baited.

Snag creation with Linda Moler, 70 year old PP using baits to create snags. 95 trees baited and no spillover. Three tree groups were also baited, low population, but baited trees were hit. Compare with inoculated trees for cavity nesters.

WBBB - Tom Eager & Steve Munson, TDP on Frazier NF. Permanent plot program to measure and record mortality. 42 plots installed in various areas. Trees were also dropped off-plot. Trees attacked primarily by WBBB. Hope to put in more plots in Regions 2 and 4. Study will continue in 1998 and tie in with root disease.

PINYON IPS - Jill Wilson, 87 permanent plots installed in Pinyon-Juniper type. Evaluating several mortality factors...including mistletoe. No data summaries yet.

BLACKSTAIN/PP - Vectors vary from area to area, 7 species of beetles may vector disease in California.

SPRUCE WEEVIL in blue and sitka spruce in Alaska - Ed Holsten, Introduced from Oregon...Pissodes strobi?

RTB - Ladd Livingston, found in plantations in northern Idaho, have attacked and killed young trees. Have seen attacks up to 50 feet in California.

## GENERAL DISCUSSION

- Future of this group? Technical working group and how formal?  
Chairmanship, location, frequency of meeting? Consensus of group to meet annually, location for 98 meeting...Vail, CO. Tom Eager will host. Ed and Steve will share chairmanship.

### - Issues:

- \* MCH, Verbenone and 4AA registration - letter to Ann Bartuska?
- \* Phero Tech Quality Control...document problems? Check products independently?
- \* Trap changes?
- \* Plume model, information on beetle behavior?  
Validation following development, beetle biological parameters.
- \* Establish monitoring strategy for silvicultural treatments designed to manage bark beetles.
- \* Letter regarding affiliation with TAC's.

- \* More info on beetle beetle complex in SW ponderosa pine...attack behavior, site colonization, competition.
- \* Additional info on fire/bark beetle interactions. Mortality predictors for fire or other disturbances.
- \* Slash treatment for Ips...is it necessary, mandatory? Hazard rating scheme?
- \* Treatments designed to mitigate bark beetle caused mortality at the landscape scale.
- \* Hazard rating systems - WPB, DFB, MPB in SW PP, other species of bark beetles?
- \* Misuse of pheromones, thinning strategies, etc.
- \* Cautionary note to Phero Tech regarding misuse of products.
- \* Develop "technical guides" for use of semiochemicals.
- \* Enhance or develop parasite and predators options for IPM strategies.
- \* Effect of bark beetle outbreaks on forest communities...ie. wildlife, visuals, recreation, vegetation.
- \* Develop strategy to document site specific impacts, quantify vegetative losses and associated consequences.
- \* Pesticide options for other species of bark beetles, lethal tree experiments for WBBB, FE, etc.