

NPBRT Minutes: 10-25-11 Meeting

NFS Conf. Room (7-9PM)

100 Main Street, Walden, CO

Members/Liaisons Present

(* Voting members)

Deb Alpe
Mike Alpe
*Mike Allnutt
*Jimmer Baller
*Kent Crowder
*Tom Hackleman
*Kay Meyring
*Randy Miller
*John Rich
Hunter Townsend
Carl Trick II
*Rick Wyatt
*Barbara Vasquez

Guests Present

Kelly Elder
Rob Hubbard
Shanna Lewis
Chuck Rhoades
Caid Waldron

Members/Liaisons Absent

Paula Belcher
*James Carothers
Pete Conovitz
*Scott Fischer
Debbi Heeney
*Mike Honholz
Ann Timberman
*Ty Wattenberg
Michael Wright

I. Agenda Review: The agenda was accepted with modification: Matt Reddy could not attend for personal reasons. His report on the North Park Irrigated Meadow Conservation Program – Phase1 will be moved to next meeting. In his place, Barbara Vasquez will give a brief, informal report on the state-wide NCNA meeting held 10-13..

II. Approval of NPBRT Minutes: Sept 20, 2011 Meeting

Approval of minutes from the Sept 20 meeting was delayed to the next meeting.

III. Progress Report on WSRA Project - Effects of Mountain Pine Beetle and Forest Management on Water Quantity, Quality and Forest Recovery-North Platte and Upper Colorado River Basins – Kelly Elder, Chuck Rhoades and Rob Hubbard – USFS, Rocky Mountain Research Station

The powerpoint presentation used to update the NPBRT on this project, which is partially underwritten by WSRA funds, is distributed with these minutes. The presenters also passed out a monograph entitled “Signs of Recovery for Colorado

Forests in the Wake of the Mountain Pine Beetle”. For those who did not make the meeting and want a copy, please contact either Kent or Barbara. The presentation was detailed, thorough and interrupted with many good questions from RT members. These minutes only capture part of the rich dialogue that occurred at the meeting. For any questions you might have not answered by the presentation, the authors can be reached at crhoades@fs.fed.us (Chuck Rhoades) and kelder@fs.fed.us (Kelly Elder).

The treatment areas for this study were established in 4 locations

- A. Willow Creek
- B. CO State Forest
- C. Gore Pass
- D. Fraser Experimental Forest

Each of the 4 locations were each subdivided into 4 treatments plots:

- 1) no action – untreated beetle killed stands
- 2) clear cut for fuels reduction,
- 3) harvest followed by scarification for forest regeneration
- 4) lop & scatter for water production

The levels of forest mortality by the MPB depends on previous management. For old growth LPP (lodge pole pine) the basal area loss is 73-83% of LPP (39-41% total), whereas in mixed age (managed) stands, only 50-70% of LPP succumbed (20-25% of total loss). Land management response to the MPB has been the greatest extent of clear cutting and salvage logging since the '70s. Post-MPD release of remaining live trees resulted in 35% of the trees growing 25% faster than in previous decade. LPP was more likely to respond than spruce. In a cut forest, the aspen grow in release, then decline in competition with evergreens. Under an uncut dead overstory, the model forecasts fir grows faster, resulting in a fir-dominated forest until late in the succession. The authors are skeptical of the model conclusions showing a large dominance of fir. Fir is quite different than LPP or spruce. (And it is not a commercially viable species.) Although it is resistant to MPB, it is susceptible to other bugs, wind and diseases which cannot be modeled well. The absence of these chaotic variables may damage the accuracy of the species mix forecast over decades. But actual observations by a graduate student of areas of forest impacted by MPB 20-30 years ago along I-70 show a patchy mosaic dominated by fir.

Harvesting stimulates new pine seedlings and aspen sprouts (5x more compared to uncut stands). The data on seedling recruitment and type of seedlings were analyzed and used as input for a future forest model. **Forecasts of future forest composition following the pine bark beetle epidemic project a return to the pre-outbreak forest structure (dominated by LPP with small range in size and age) in 80-120 years.** There were a number of questions and considerable discussion about model and the resultant projections. But when addressing the practical question, “To what extent can humans intervene to shape the future forest?”, the researchers estimated that the maximum treatment area might be 30-40% of the forests in NW Colorado, but the best estimate of the financially and physically feasible harvest/management

area only ~10% of the beetle-killed forest. Kelly Elder commented that 'what the forest should look like involves politics and social implications well out of the control of scientist studying the forests and making recommendations'.

Regarding hydrology, the research team is doing work on the impact of species and growth rate on the water cycle. For example, the interception snow by the crowns of trees supports increased evapotranspiration. LPP has a lower ratio of needle to tree diameter. Fir has greater snow sublimation because it has more needle surface area and larger crown. Models suggest that water consumption peaks out around 60 years, but results vary by species. LPP is mature and ready for harvest in ~120yrs. Lop and scatter is the preferred treatment for water production, because the resulting surface roughness increases snow retention. Carl Trick asked the question whether the unprecedented volume and duration of the runoff in the North Platte Basin was due to the MPB epidemic. Although last winter was a record for the depth of snow on Buffalo Pass, for example, Kelly believed there's a beetle signal in the run off behavior. He felt it is a common sense conclusion: reduced canopy, reduced snow sublimation and reduced uptake of water by the forest should result in increased runoff for the same amount of snow in the watershed. When pressed to estimate the size of the 'signal', he responded with ~20%. The long, cold wet spring delayed the peak and likely saved the basin from major flooding. However, the hydrological data comparing treatments in this study is all over the map. The conclusion may be that each basin is different enough in the details that one cannot predict the impact on water production. Part of that variability might be in the understory shrub behavior. But as of yet there is no parallel 'shrub' study to investigate the water use and growth response of the understory as a function of MPB treatments.

Deb Alpe asked whether there would be requests for additional WSRA beyond the close of this project in 2012. The researchers responded that they will be working with the data collected from the study for years.

It was suggested that a tour of the experimental sites be set up for the NPBRT members. **It was agreed to target a field tour for early July, 2012.**

IV. Education Liaison Update –Deb Alpe – Status of CFWE North Platte Education Project

Deb announced that CFWE Water 2012 is developing a display. It was suggested to display it for local information at the County Fair and the StockGrower's annual meeting.

The Ag Water workshop is scheduled for Dec.1 There's a \$50 registration fee for any Ag producer. But CFWE scholarship can be requested.

Kristin Maharg had provided a final draft of the text for the North Platte Basin Report which Barbara sent out to all the RT members. Carl commented that it wasn't 'final' till approved by the RT. There have been several rounds of comments. Kristin, Deb and the Education Committee have the common goal to get this completed so the Report can be used as intended for public education and outreach. So please review the document and make your final round of comments on the text. CFWE will then do the layout with photos, sidebars, etc and deliver it for RT review/approval.

V. Old Business

None

V. New Business:

Barbara passed out copies of a recent review entitled "Revenge of Water". It's a great introduction for people not tuned into the issues of water availability, cleanliness and cost.

Kent asked Barbara to comment on the State-wide NCN meeting she attended on Oct.13. The official minutes and proposed follow-up have not been published. However, she did comment on the fact that John Stulp stayed through the entire workshop and provided an informal statement at the end. The organizers will publish a summary and recommendations for next steps, which will be shared with NPBRT when available.

VI. Set Next Meeting: The date for the next meeting is set for Tue, Dec 6, 3-5PM (winter hours).

ATTACHMENTS:

Powerpoint presentation made by Kelly Elder & Chuck Rhoades:
NPBRT MPB Oct2011-_final.pdf