# HSC 2020 Committee Meeting Minutes

# July 16, 2020 Zoom

Attendees: Andrew Bluhm, Glenn Ahrens- OSU; Gary Swaner- Swaner Hardwoods; Bob Deal- PNW Research Station; Randy Bartelt- Port Angeles Hardwood; George McFadden, Bureau of Land Management; Brian Morris- WA DNR; Dave Sweitzer- Washington Hardwoods Commission; Alvin Yanchuk, Kwadwo Omari, Neil Hughes- BC Ministry of Forests

The meeting started at 9:00 AM on Zoom with a welcome from the HSC program leader, Glenn Ahrens. After introductions, Glenn gave a tribute to the late Paul Kriegal,, a long-time supporter and key member of the HSC.

Following that, Andrew Bluhm moved on to HSC business with a review of last years’ fieldwork, the coming years’ fieldwork and an overview of the data collection schedule for all three installation types.

Last year (Winter 2019/20) was a very light year.

* Three Type 2 installations (Blue Mtn., Mohun Creek, and Hemlock Creek) had their 27th year measurement.
* There were no thinning or pruning treatments required.
* Since the Washington Hardwoods Commission (WHC) could not support the measurements at Blue Mtn. and Hemlock Creek, the WA DNR graciously stepped in and provided personnel to get those measurements completed.

Next year (Winter 2020/21) will be a busy year.

* One Type 2 installation (Humphrey Hill) will have its 32nd year measurement.
* Five Type 2 installations (Lucky Ck., French Ck., Cape Mtn., Siletz, and Dora) will have their 27th year measurement.
* Three Type 3 installation (Monroe-Indian, Turner Ck., and Holt Ck.) will have their 27th year measurement.
* One Type 2 installation (Siletz) will require the 4th pruning treatments required.
* Unfortunately, three of the ten installations were “orphaned” making it difficult to get the measurements completed.

As fall approaches, Andrew will contact each HSC member to provide specific on the activities and schedule the fieldwork.

Andrew then gave a summary of the latest refitting of the RAP-ORGANON growth and yield model. Key points were:

* When the original alder plantation version of ORGANON (RAP1) was first produced in 2011, the oldest measured data from alder plantations were 18 years total age.
* Comparison of model projections (using RAP1) to measured plot data from the HSC network found some inconsistencies, most notably significant underestimates of diameter in thinned stands, and overestimates of mortality in unthinned stands.
* A refit of updated, older datasets was done by David Hann and CIPS (Center for Intensive Planted-forest Silviculture) allied with the HSC.
* The new dataset included over 70,000 more measurements than the dataset used for RAP1 fit.
* The new dataset included only HSC data, it was found that the early growth in trees between the HSC dataset and the WeyCo dataset were significantly different from one another as to make model fitting improbable.
* All equation forms in the model were to be refit and if not significant, reparameterized.
* This refitting should lead to better individual tree and stand level predictions.

Glenn then discussed the ongoing effort to produce alder plantation growth and yield tables. These yield tables would be generated with predictions from the updated growth model. Glenn used the intermediary growth model produced by CIPS to generate a preliminary set of growth and yield tables.

Methods:

* HSC Type 2 sites were classified into three productivity classes- high, medium, and low
* Seventeen or 22 year-old data from three sites from each productivity class was selected
* After deciding on merchantability standards ((30 ft target log length, 5-inch min. top, 8-inch trim), the original version of RAP-ORGANON was used to generate Scribner volume estimates in 5 year intervals for the following three treatments:
  + Plant at 250tpa
  + Plant at 525tpa
  + Plant at 525tpa and PCT to 230tpa at age 7

Preliminary results included:

* + Volume estimates on Medium to High Productivity sites are 25% to 50% higher than “normal yield” from natural stands.
  + Thinning increases yield of larger log sizes (>8 inch scaling dia), but it reduces total yield somewhat (>5 inch dia).
  + The economic benefit of thinning depends on price premiums for larger logs.
  + Thinning has a greater impact on medium productivity sites compared to high productivity sites.

Once the updated growth model is available, the HSC is intent on publishing a suite of red alder stand tables. Until then, however, the HSC would like further input from regional foresters as to what information should be presented and how the stand tables would be structured. For instance, creating vilume tables using metric units would be of interest to British Columbia foresters.

The next topic, alder genetics, was presented by Andrew. This general topic was broken down into three components- an alder clone bank, an alder clone trial, and the future of alder tree improvement.

Clone bank (for a full description please see the 2020 HSC Annual Report):

* The HSC, WHC, and Hancock Forest Management launched an effort to establish an alder clone bank, using material from WSU’s tree improvement program.
* The ODF Schroeder facility was chosen for the clone bank. Details of the clone bank are as follows:
* 20 WSU production clones were used
* 3 one-year-old plants per clone
* 12ft x 18ft spacing
* 0.3 acre (plus more if needed)
* Planted late Fall 2019
* All mortality was replaced with reserve trees
* FY20 Costs (site prep & establishment): =$2500
* FY21 Costs (veg control & watering): =$3000

Clone Trial (for a full description please see the 2020 HSC Annual Report): Therefore, the objective of this study was to establish a clone trial on public land (OSU Blodgett tract) to compare the performance of red alder clones with a woods run controls.

Study Design:

* The trial was planted on April 3, 2020 in an unfenced area in the Newton Survivor harvest unit on the Blodgett Forest.
* The Newton Survivor unit was harvested in December 2018, and hand sprayed in the summer of 2019. Nine acres were planted in Douglas-fir in February 2020, leaving twelve acres available for red alder. Of that acreage, ~1 acre was designated for the trial and cleared of any slash piles (and subsequent burn piles). The remaining acreage was an operational planting with a mixture of the red alder clones.
* The trial area was planted on a 9 x 9’ grid (537tpa).
* Four sources of seedlings were used in this trial: 1) Eighteen clones from the WSU program and grown as PSB 615A plugs, 2) Woods run bare root seedlings from the Weyerhaeuser Aurora nursery, 3) Woods run 615 plugs grown by PRT Hubbard from the 041 seed source (SW WA), bought from WA DNR, and 4) an “Open pollinated” plugs (lot #249) from a WSU clone trial grown as plugs by the WSU program (hereafter known as “Clones”, “WeyCo”, “DNR”, and “WSU”)
* The study design was a randomized complete block design with four blocks (i.e. replications).
* Each treatment within each block is represented by an individual-tree plot, with planting locations randomly assigned.
* Each block (rep) contained 21 treatments:
  + 18 clones
  + The three comparison sources (WeyCo, DNR, & WSU) included twice (to account for its expected higher inter-tree variation).
* Each block had 144 planting spots- six individuals for each of the 18 clones, and 12 individuals for the three comparison sources.
* The trial was bordered by 5-tree row plots of randomly assigned 20 treatments (DNR source not included) all of which was surrounded by the operational planting.
* Immediately after planting, initial tree size (height and caliper) was measured on all 576 trees (not including the row plot borders)
  + Mean caliper was 4.4mm
  + Mean height was 55.8cm (22in)
* Grouping all clones together revealed small (but statistically significant) differences in caliper and height
* Tree size and survival measurements will be made in years 1, 2, 3

Glenn then described the proposed lumber recovery project between the HSC and Cascade Hardwood. The main objective of this study would be to provide valuable information for land managers and for mill owners interested in red alder by obtaining information on the recoverable volumes and grade yields of lumber from managed plantations of red alder. The specific objectives of this project are (subject to change):

* 1. Provide characteristics of trees and logs from a red alder plantation with various silvicultural regimes (varying planting density, pruning, and thinning).
  2. Calculate total lumber volume recovery rates and grade recovery percentages for different silvicultural treatments.
  3. Compare overrun percentage, cubic recovery ratio (CRR) and lumber recovery factor (LRF) across treatments.
  4. Compare lumber volume recovery rates and grade recovery percentages to “woods-run” or industry averages (i.e. unmanaged, natural stands)?
  5. Determine how well log grades/log buyer specs predict lumber recovery.

Two sites are potential candidates for this study. Both are in NW Washington, near Mt. Vernon, owned by Swaner Hardwoods and managed by Goodyear-Nelson. These sites are two of the first HSC Type II installations established. Many of the specifics/details still need to be worked out, including:

* + Timing
  + Harvest Plan
  + Treatment, tree, and log selection
  + Log and lumber processing
  + Lumber grading
  + Cost structure

Next, Andrew presented the HSC budget. Please see the handouts included in the meeting folder. Highlights included:

* Dues received in fiscal year 2020 were $55,500.
* Actual FY2020 costs were greater than what was projected for FY2020.
* Andrew’s time decreased from 0.40 to 0.35FTE.
* The HSC will be carrying appx. $24,000 into FY2021.