

SILVICULTURAL ADVISORY COMMITTEE

Field Trip: August 27&28, 2013

This year's field trip gathered at the Farmington office for introductions and then most climbed into vans for the trip to the Richardson Unit, with lunch being eaten on the fly. Significant topics in the field were Outcome Based Forestry (low-density pine management and full overstory removal), extended removal shelterwood in softwoods, and potential choices between management for high quality hardwoods or maple sugary.

The following people were present:

Committee members:	Mac Hunter	Bill Leak
	Kip Nichols	Bob Seymour
Bureau staff:		
Eastern Region	Terri Coolong	Tyler McIntosh
	Eric Nosel	Rocco Pizzo
	Chuck Simpson	
Northern Region	Chet Condon	Marc Deschene
	Ed Dube	Don Kidder
	Vern Labbe	Randy Lagasse
	Dave Parent	Dave Pierce
Western Region	Marc Albert (Day 2)	Jeff Bartley (Day 2)
	Matt Foust	Bill Haslam
	Frank Henry	Eric Hoar
	Pete Smith	Steve Swatling
	Ben Webb	
Augusta	Will Harris	Tom Morrison
	Joe Wiley	Tom Charles
	Stephen Richardson (Day 1)	

Sampling of discussion items (due to group size, not all were picked up)

Tuesday, August 27

The group gathered at the Farmington office, where lunches were distributed and for the most part, consumed on the drive toward the Richardson Unit. All of the field stops were on or near this tract.

Stop #1: Proposed Commercial Thinning in Small-Pole Spruce-Pine.

While most of the dense spruce-pine poletimber on lower Richardson was thinned from below during the period 1996-2002, trees on this 450+ acre area was considered too small at that time. Pete Smith, who prescribed the earlier thinning, said this stand was of alter origin than where he had worked. Before exploring this stand, the group discussed the overall thinning project, reopening themes discussed during the 2010 field trip, in particular why the residual spruce appeared to have not responded to the thinning, though their current growth rates were maintained. Bob noted the data from CFRU's Commercial Thinning Research Network (CTRN), which included a site on this Unit plus one nearby on Seven Islands. While the PCT stands, largely fir, responded vigorously, these older non-PCT stands showed little or no increase in growth rate (except on pine), with lower site quality here as the probable reason.

Someone asked whether the small four-wheel processors were still available, with Bill Haslam asking Kip if Seven Islands was still doing any CTL thins. Kip said they had a demonstration thinning being done in the Ashland area.

We walked into the stand, stopping at a place where the composition was at least one-quarter white pine. Kip asked if regeneration would be an objective of harvesting here, Bill H noting that we'd get it but that it was not the prime objective. Next question concerned how long after this thinning we would wait before re-entry, the answer being 15-20 years. Kip wondered if the volume would've increased to pre-thin stocking by then, and that is unknown, though experience with the earlier thinning suggests the negative. Bill H noted that nearly all this stand was similar, with more/less pine in some areas, and some wet areas holding smaller black spruce. Kip referred to those areas as rock-bogs. Since one of the facets of the Bureau's Outcome Based Forestry (OBF) project here concerned deer cover, including for the nearby Mosquito Brook DWA, Bill Leak wondered if we could enhance cover value. Bill H thought that maintaining it was a more realistic goal.

A short walk brought us to a similar stand which had been thinned in 2000-01, and which had abundant spruce-fir-pine regeneration 6" to 2' tall. Bill L asked when we would take off the top, Bob responding, "Not yet, here." Pete said we might be able to do a second thinning in stands like these, with some areas warranting partial overstory removal. Bob suggested that, where there was sufficient pine in the overstory, we might cut all spruce with crowns touching those of pine. Bill H noted that, were a small processor available when the adjacent "initial thin" acres were completed, bringing it here would be an option.

Stop #2: Overstory Removal, Stands Thinned 1996-2002

A short distance down the road, we stopped at a recently completed OSR area, the contractor having begun only about six weeks earlier. This was done under the West Region's initial Contract for Logging Services (CLS) operation, and was also part of the OBF project. The contractor, Mark Theriault, met us on site. Pete and Bill H said that the prescription varied throughout the 1,700 acres of stands treated in that earlier thinning, being OSR with pine retention on most acres with a second thinning where pine was scarce and spruce was dense. Bill H noted that the loggers here were very good at leaving retention trees and patches, and respecting the regeneration, while producing some 350 cords per week. Bill L wondered whether to take the scattered aspen, Tom C replying that they could go, as the residual pine provided tall structure and there was loads of woody debris on site. Pete was asked about the cedar, and said there was no market for low quality stems as found here. Mac asked what was next for the residual pine, and the thinking is that some will be taken at the time we first thin the current seedlings/saplings.

Discussion then turned to the OBF concept, Kip asking what the "outcome" was here. Tom C said, faster growth on the high quality low density pine, and Tom M added that under OBF we didn't have to be concerned whether the remaining overstory had 25 or 35 square feet of basal area, or whether the stem count of acceptable regeneration was high enough (though here it invariably will be.) Kip likened it to permit-by-rule, Tom M agreeing but adding, "We made the rule", with the prescription. Don asked Bill H what he would have prescribed here in the absence of OBF, and Bill thought that some partial OSR on the slow growing spruce and perhaps a bit more acres with second thinning being tried – in other words, much as was recommended by the committee here in 2010 before any second entries had been done. Bill H said we would seek to enhance pine growth while nurturing the fine regeneration. Tom M characterized the Bureau's thinking here as partly making lemonade out of lemons (the non-response of spruce)

and partly out of the usual BPL “box”. There was also considerable discussion of OBF as a concept, beyond this particular project.

Stop #3 OBF Harvest of 2012

Heading back toward Rangeley, we stopped at the area where the initial OBF work had been done the previous summer by Maine-ly Trees. The committee trip in 2010 had walked through much of this area, and it was also visited during the Bureau’s 2012 surveillance audit. As the harvest was somewhat visible from the public use road (South Arm Road), Steve S asked about the policy implications. He noted that, while the operation didn’t meet the “appearance of uncut” standard, it also was not “showing off the forestry” character. Vern said that many recreational users want to see more than the green tunnel, and some breaks in the wall would be valuable both from visual monotony and educational standpoints. Joe said it might be good to place some informational signs, as we had done when patch-cutting aspen to the roadside along a public use road north of Flagstaff Lake. Steve said it would be useful to select specific locations along public use roads to show appropriate silviculture.

Pete asked about future precommercial thinning. Kip thought we should not invest in PCT until the pine overstory was removed or reduced to just legacy trees, then asked why we would PCT here. Tom M replied that we might want to favor the pine where it was being held back by other species, and Kip noted that spruce was just as valuable and could be managed on a shorter rotation. Bob said that we don’t want pure pine, as the first thinning would then produce mainly low-no value pine pulp, noting that Baskahegan had PCT targets of 7-foot spacing for spruce and 25-feet for pine. Tom C thought that PCT might be most useful in the more fertile sites where the regeneration was 80/20 fir to spruce, that we might boost that to 50/50. Some time was spent addressing the allowable cut effect, the concept of being able to increase harvest above current net growth based on the anticipated increased growth in the future due to current timber stand improvements such as PCT. Bob then asked whether we should have the OSR work last the same 6+ years as did the initial thinning, with Tom M noting the large operational differences – the in-progress harvests were producing more in a week than the small processors could in a month.

At this point we headed for Grant’s Kennebago Camps, unfortunately without fly rods, though the dinner was excellent, the scenery spectacular, and the evening discussion vigorous.

Evening “Program”

This session began with Will and Tom M. explaining the process by which the Division (Bureau as of this October) agreed to a significant increase in the sustainable harvest level (SHL) in coming years, soon after SHL had been boosted as a result of the 2011 inventory and subsequent modeling. (This initial increase, from 115,000 to 141,500 cords, was noted briefly but drew no discussion.) Will and Tom explained that staff at the Maine Forest Service were concerned about the level of stocking on the Public Lands, about 40% higher than on the State as a whole. MFS considered this to be holding too much value at risk, from ongoing mortality and potentially from spruce budworm when it returns in force. They also were of the opinion that the older (115K cord) SHL was set too far below net growth, and that even the revision to 141,500 was lower than necessary, as it included a 15% “logistics discount.”

Their proposal was to use a 5% discount (or none at all) and that we draw down the inventory from 23 cords per acre to 20 over the next fifteen-plus years, with average annual harvest of 227,000 cords. Our counterproposal, which we thought would allow our management to remain within the scope of legislative mandate, was a 1.5 cord per acre drawdown, to a level similar to

what it was about ten years ago, over a twenty year span, with a 10% discount, meaning an annual harvest of 180,000 cords. In addition, the provision of periodic checks (perhaps at five year intervals) to evaluate progress and consequences, and the need for additional staff, were also discussed.

Following this explanation, committee members were asked about their thoughts on this proposal, and my less-than-comprehensive notes are below. (Note: Tom M. has also briefed the three members unable to attend on this process.)

Comments/questions noted from committee members (Bureau staff mainly listened):

--Bob: There is no forest dynamic that indicates that 23 cords per acre is too high. The potential peak is in the 40-50 cord range, and DPPL inventory level is at/close to the "sweet spot" where both net growth and LS/nontimber values are high. Mortality performs important functions in a healthy forest. We should be "proud" of our [relatively high] mortality rate, as long as we continue to get high net growth. (Said in the context of MFS/FIA data showing public ownership having the highest net growth of any ownership group.)

--Mac: Has there been any informing of stakeholders and the public beyond the audit reports and the annual report to the legislature, or has the Division been reactive only?

(There was also the "biomass bill" which would have legislatively set SHL at 180,000 cords, but little else prior to the Flagstaff advisory committee meeting two weeks earlier. Will noted that the increase was more of an adjustment than a new policy, as we anticipate being able to accomplish it while continuing to conduct the exemplary forest management required as part of our legislative mandate. He added that the major public interest in the lands we manage lies elsewhere, not in the "thick weeds" of growth and yield.)

--Bill: What is the per acre SHL at the current 141,500 cord level. (0.357 cd/ac/yr, 84-85% of the estimated net growth of 0.422.) Bill also wondered about the "momentum" [perhaps "inertia" might be a better fit] inherent in state government.

(Tom M. said that we were still working out the necessary logistics, in ways that would ensure the appropriate level of operational involvement by staff. Also at issue is the available logging/trucking equipment, or the equipment that operators would choose to make available, noting that we had suffered shortfalls in harvest volume in some recent years due to contractors deciding to "bank" our wood and work elsewhere first. There is also a shortage of trained operators of logging equipment, exacerbating the situation. He concluded by noting that the "momentum" could change quickly.)

--Mac: Will there be a danger of accepting less skilled contractors?

(Will: No, and we would propose using some of the additional revenue to help in training operators.)

--Kip: Could you get more production out of existing contractors?

(Tom C: Would need to maintain the current harvest standards. *Not noted at the meeting: We've been asked about double-shifts, and have declined, as night shift operators can't see crown conditions well enough.*)

--Kip also noted that the costs of CLS may not be fully known, and that those costs could make a dent in the seemingly higher revenue, that stumpage finances were more cut and dried. He recommended that we be strategic in targeting areas for increased harvesting.

--Bill: The woods will grow that rapidly, probably at 0.45 to 0.50 cd/ac/yr.

--Mac: The Maine forest is currently in a period of restoration after a period of degradation during/after the budworm epidemic. [Unsaid was that we should be a strong part of that restoration.]

--Bob: Your role should be to become more different from the average management, not less. I've no problems with the SHL of 141,000 cords.

(Will: Is the real issue adding 40,000 to that 141, or that it could start us down the road to being more like industry?)

--Bob: It's more the latter. If we were to add a couple foresters per region, we could capture some of the mortality, hold on to the LS forest, improve the quality, and meet the 180,000 cords while conducting silviculture of which we could be proud and maintaining the current inventory. Just pushing current staff to 180 will inevitably lead to a blow-up, whether in some highly publicized inappropriate harvest or in staff morale/performance. Bob concluded with some compliments on our management and some cautions: "This kind of ecological forestry you do has no constituency" (and that we're "getting dinged for doing what is right"), and that moving the sustainable harvest level is the most important decision a forest manager can make. He also wondered how the 1999 and 2011 inventories compared for "sawlog-size" trees, those 10" dbh and larger.

(Post-meeting calculations on inventories 1999/2011, using only size classes 2 and 3, as size 1s were not sampled in 1999:

--Volume per acre rose 9% (about 2 cords per acre)

--Trees per acre 10"+ rose by 10%. This would be a bit higher if the pine-rich southern lots had been included in 2011. Each region had an increase, 8% in the North, 14% East, 10% West.

--Biggest increases in 10"+ were in pines and hemlock (46% for pines if small lots dropped from 1999 numbers, and 49% for hemlock), and for spruce the 10"+ stems increased by 19%.

--Beech, paper birch, and aspens all had fewer 10"+ stems, and they were also the only species for which the 2011 inventory showed decreases in volume. The birch and aspen changes were the result of targeted harvesting, but for beech natural mortality of large stems might be more important.

--Fir stems 10"+ increased by 2%, but fir volume climbed by 18%. Harvests consistently target large old fir, and the progeny of heavy 1970s-80s harvests, heavy to fir, are coming into merchantable sizes (though still smaller than 10".)

Wednesday, August 28

Thirty minutes of driving brought us to just north of the Lincoln Plantation west public lot, a small rectangular parcel with Route 16 passing through its northeast corner. After walking up the moderate slope for a few hundred yards, we gathered to discuss Bureau plans for the lot.

Stop #1 Lincoln West Public Lot – Timber or Syrup?

Pete Smith prescribed and then supervised the 1992 harvest on this lot, a selection treatment (almost a thinning) removing 1,140 cords, about 85% hardwood pulpwood. He noted the even-age character of the stands and the fact that the trees cut showed above average amounts of mineral stain, though whether due to some site/genetic factors or merely because he painted the poorest quality stems. Ben Webb then gave some more details of the stands, most having been established by mid 1950s heavy cuts made by the (then) holder of timber and grass rights, and currently with nearly 60% of the overall volume in sugar maple of relatively good form. He then posed the question of whether we should manage these acres for timber or for maple products. Pete gave some background on the small sugary lease at Oquossoc Bald Mountain, the larger lease recently initiated at Sandy Bay, the increasing per-tap prices being commanded in sugary leases, and the fact that some members of our legislative committee of jurisdiction are very interested in additional maple syrup products coming from the public lands. Tom M noted the legislatively created maple task force, reinforced the increasingly attractive economics of maple products, and added that our soon to begin harvest at Codyville (Washington County) would include culturing of hardwood stands for a potential sugary lease.

Before we addressed Ben's query, some other factors were noted, such as Wagner raising their pre-tap rate to \$1.15 (we had thought the \$0.60 average rate at Sandy Bay to be excellent in 2011), and the change in ownership and thus potential change in management of Big Six Township, located on the border with Canada north of the Golden Road and site of nearly a quarter of all Maine maple taps. Will said that maple sugar was a logical connection between Lands and Agriculture. Given the interest in economic benefit to Maine, Mac asked what would happen if a bidder from nearby New Hampshire were to be highest. Tom M said that if the bid met the specs, I would take the award, unless the legislature chose to mandate some other protocol. Eric H asked about our export policy, Tom M responding that it was currently for wood only and just that crossing the international boundary. Chuck wondered if it would be appropriate to award extra points to in-state bidders.

Tom M said that the 1973 legislation creating the (then) Bureau of Public Lands included tapping of maples. Pete reminded us that once a high production sugarbush was set up, the spiderweb of tubing would make any future timber harvests difficult, though Marc D thought that a well-handled fellerbuncher would be able to snip and pile trees safely. Pete then added that, prior to putting the Sandy Bay project out to bid, the Bureau had done a harvest to both ensure good stocking of appropriately sized sugar maple, and to harvest those with the very highest timber value. Ed Dube wondered if we might do sugary leases in similar fashion as CLS logging, and Will didn't think so, mainly because, unlike timber harvesting, we don't have sufficient expertise in sugary establishment and management. Vern suggested that we have a clause in sugary leases, at least selected ones, that a specified number of barrels come to the Bureau, that we could repackage and sell as "Parks and Lands Syrup" at State Parks. (Note: This has been done, though with product purchased from other sugaries.)

Tom C presented a rudimentary analysis comparing timber to sugary values. At \$0.60 per tap, the sugary value exceeded that of timber on the average northern hardwood site (meaning, soils with fairly high fertility), but on the best hardwood sites the timber would be more valuable. Kip thought that analysis pegged the sugary value too low and suggested that it include the up-front value received from a culturing harvest of timber. (This was done later, and resulted in a value increase equivalent to an additional \$0.10 per tap.) Vern then noted that prime areas of well-established sugarbush were commanding rates near \$2 per tap in the north, and I've since read of similar rates in Vermont.

The discussion turned to how one could bring forward the next generation of tappable trees, and potential negative impact of saplings on the tubing. Kip said the latter would be no worse than moose impact. Ben said there was about a twenty-year useful life of tubing, and that the sugarbush lessee or the landowner might then regenerate 20% of the stand with each tubing replacement interval. Steve wondered if such a potential harvest might only be an empty promise, that the lessee might object, though Terri thought it might fly, especially if it would improve the sugarbush. She also noted that some non-maple stems should be retained, and that MOFGA would not certify as organic an absolutely pure sugar maple stand. Bob suggested that, following the culturing harvest, regeneration harvests begin at sugary establishment plus 40 years, then go to the twenty year re-entries. Steve and Bob agreed that the stand include some no-tap maples, perhaps five per acre.

(My notes show nothing in direct answer to Ben's "timber or sugar" question. However, in sidebar and subsequent conversations, there was a sense of "this stand is too valuable as timber to manage as a sugarbush." It is fully stocked with high quality trees on a fine site, but the jury appears still to be out on that decision,)

Stop #2 Multiple Partial OSR Harvests is Spruce-Fir-Pine

In these softwood stands along Route 16, the Bureau has conducted harvesting twice, in 1991-92 and 2008-09. The previous landowner had conducted partial harvests during the 1940s and 1970s, so considerable regeneration had been established before the initial BPL treatments. These treatments have included partial overstory removals where regeneration was abundant and desirable, establishment harvests (some labeled as thinning) where regen was less numerous, and some selection harvests bordering the highway. Pete noted that the most recent entry was done in early spring after two successive very snowy winters, because the deep snow, softwood cover, hard rocky ground, and paved road access allowed work to be done when other harvesting had shut down. Overall, the two harvest periods yielded 3,000 cords (95% softwoods) from about 380 acres, three quarters of which were entered twice. Each entry focused on taking the weakest spruce, and other low quality stems, though a few scraggly hardwoods were intentionally retained. No pine was harvested. The first entry was done mostly by fellerbuncher, the second using a fixed-head processor. Ben Webb added that harvest control for the most recent treatment was mainly by criteria, with Bureau staff laying out the trails.

The first trail we explored was a C-density stand, probably with +/-50% overstory crown closure of spruce, pine, red maple, and a few fir, along with lots of spruce-fir-pine regeneration. Bob called this area a “classic irregular shelterwood”, and said it retained good options for continued high value growth. We then headed off the opposite side of the logyard into an area more heavily dominated by spruce, with scattered superstory pine and very few hardwoods – also with one rather unconcerned spruce grouse. Regeneration was sufficient here though with some gaps, and was generally 1-3’ tall, compared to 2-8’ on the first trail. There were also more pine seedlings here. Bob noted the common view that these modest quality sites with red or red/black spruce could only be handled through even-age management, but that what we were seeing offered a viable and valuable alternative. He then recommended we continue here with periodic light cuts, retaining the better overstory and bringing the regeneration up through the canopy.

Bill H asked Pete what the stand had been prior to the 1990s entries; it then had held much more old, flat-topped and ragged-crowned spruce. Bob allowed that it had been one instance, where big equaled old, when cutting from above was silviculturally appropriate. Mac wondered why we chose irregular shelterwood here but not in the stands visited the day before. Pete noted that those stands south of the lake had been purely even-aged and even with the most successful harvest method tried in such stands by CTRN (light thinning from below), there was little growth response by spruce and regeneration even more abundant than seen at the current stop.

We walked a bit farther to see an area with considerably denser overstory. Here the stand had been marked for harvest, and since it had been cut by skidder-chainsaw crews in the 1990s entry, was probably marked at that time, too. Marc A asked if any fir had been cut, Pete replying that it was gone prior to this harvest. Bill Leak brought up plans for the next time, and Bill H thought we would do another similar thinning/establishment harvest, or partial OSR, matching treatment to conditions. Pete added that spruce vigor was better here than where we had just walked, probably because there was more soil between the boulders. Bob’s concluding comment was that a place like this was where a too-soon removal harvest might be a temptation when trying to reach a harvest of 180,000 cords, adding, “Here is where I’ll look in ten years, to see if you’re doing what you said you would do last night.” A request for other closing comment brought Bill L’s thoughts that these harvests had been well thought out and successful.

The 2014 field trip is set for the Northern Region. If there were any committee comments on what they would wish to see there, the note taker did not record them.