

FINAL Minutes
Region II-III Reforestation Implementation Group (IG)
Meeting #2 – April 25, 2016
Teleconference: Anchorage, Fairbanks, Galena, Soldotna

IG Member present:

Theo DeLaca	Marty Freeman	Jeff Selinger
Clare Doig	Tim Kalke	Mark Stahl
Jeremy Douse	Kevin Meany	Wade Wahrenbrock
Jim Durst	Tom Paragi	Joe Young

IG Members unable to attend:

Rod Arno	Rick Jandreau	Amy O'Connor
Joe Bovee	Patrick Kelly	Paul Slenkamp

Public attendees

none

Note: Handouts referenced in the minutes are available from either co-chair.

Introduction and Background. IG members introduced themselves. Minutes from the April 4, 2016 meeting were reviewed, and approved as corrected. Freeman reviewed the agenda, then reminded the committee of what was accomplished in Meeting #1 and what the goals were for the current meeting.

Issues Continued from Meeting #1. The committee continued discussions on how to implement recommendations from the Science and Technical Committee adopted by the Board.

S&TC C22 -- FRPA Applicability Thresholds: Freeman presented a table of conversions that included information from Doig, Douse, and Meany, providing equivalent measures in cunits, cords, green tons, and bone dry tons to the board feet thresholds for commercial timber harvest listed in 11 AAC 95.500.

Young suggested checking with Jeff Hermanns in Tok DOF for the Tok-specific volume/weight formulas he developed based on 10-cords/truckload for firewood and scaled green wood logs that were also weighed.

Doig asked who determines when thresholds are reached since there are few scalers and truck scales in Region II and III, and none in the off-highway areas? Douse said that, in terms of what is provided on a DPO, the volumes are estimates based on what inventory data are available. The ranges provided in the table are reasonable, and anything within those ranges would definitely be a commercial operation.

Wahrenbrock suggested leaving the regulations as they are and putting the table of conversion factors in the purple book, or other DOF written guidance. The committee agreed with this approach, suggesting that the mid-range number be used in each case, and that it be made as easy as possible for rural operators. Young suggested the range of values be captured in some way to allow for natural variations between different areas and forest types. Freeman will put together draft and distribute for review prior to next meeting.

S&TC C3am and R4, R10, and R14 -- Stocking density: Freeman presented a table of stand inventory data from DOF and TCC showing numbers of stems by size class for various forest types, species, and areas (see handout). Prior to harvest, most stands met or exceeded the stocking density for the current reforestation standards. Based on this and other information, the S&TC had concluded that 450 stems/acre was reasonable, but identified three research needs: a need to follow more stands over a variety of ages, a need for more data on how stands with differing numbers of stems develop over a rotation, and a need to expand Morimoto's work to other stands several decades after reforestation. If reforestation is delayed too long after harvest (for example, to accommodate extended recruitment that does not ultimately occur), the risk is that the rotation length for a stand will be greatly increased. The S&TC recognized that current Forest Inventory Assessment (FIA) work may help in the future.

Wahrenbrock said he read Morimoto's paper on extended recruitment and agreed that it happens on the Kenai as well. Even when *Calamagrostis* is present, stands have spruce seedlings present 30-40 years after harvest. He's wondering if that needs to be included in the numbers given the economics of harvest. On the Kenai, spruce sawlog stumps are \$250-500/ac, so planting 450 seedlings/ac at \$1/seedling might not be viable. If depend on extended recruitment, might only need 300 seedlings/ac at 7 years post-harvest to get a fully stocked economic stand in the longer term. Paragi asked if this also applied to birch stands. Wahrenbrock said that birch will regenerate after summer logging or site preparation, but moose browse can keep birch seedlings from growing pole size or larger.

Young asked if we needed to split out Region II from Region III. Freeman responded that the S&TC believed the variation was more site-dependent than region-dependent, so the 12-year extended reforestation recommendation was intended to rely on local expertise and create some flexibility for operators and landowners. She asked if the IG concern was more with the time period or the stocking density. Douse said that 450 stems/ac seemed like a workable compromise density. DeLaca asked if the goal was even-age or uneven-age stands. Paragi replied that, during the S&TC, Juday and Yarie had said that the result was largely an even-age stand with the initial pulse of regeneration, with extended recruitment trees struggling to thrive unless they were in an open patch.

Meany noted that there would be problems with access and tracking if the regeneration period was extended too long. Doig asked about current enforcement. Freeman said that DOF works with landowners to get success. For example, on Kodiak/Afognak, reforestation reports

showed problems so DOF worked with operators with site-specific programs (replanting, herbicide, etc.). There are a few similar cases on the Kenai. All sites are now caught up and in compliance. Douse and Meany said that regeneration surveys in the Interior are showing that current stocking levels are working.

DeLaca asked about natural acts (fires, floods) that occur after a unit has already been planted. Freeman said that the landowner would not have to replant in that situation. Paragi noted that every fire is different, so the effects of fire through an area would be hard to predict. Freeman reminded the committee about the variation procedure, available for any aspect of FRPA and its Regulations.

S&TC C1am --Natural regeneration information for DPO Supplement: Freeman presented the draft DPO checklist for harvest areas where the landowner intends to use natural regeneration. Selinger asked if it would be useful to use soil samples to determine extent of *Calamagrostis* rhizomes. Paragi said that, while effective, such sampling would be labor intensive. If you see *Calamagrostis* before harvest, it's coming back after harvest. Wahrenbrock asked is there should be a region-specific *Calamagrostis* standard? visually present? 1%? found in any part of stand? Freeman worked with the committee to develop the following language for the checklist.

Calamagrostis (bluejoint grass) is not visually evident. If *Calamagrostis* is visually evident, describe abundance and distribution. Note: *Calamagrostis* coverage of more than 1-2% indicates that grass coverage may expand rapidly after harvest without treatment.

Wahrenbrock asked about adding the presence of exposed humus soil (in contrast to mineral soil) in the checklist? He has noted good regeneration at the interface between mineral and organic soils, presumably due to adequate moisture and nutrients.

Freeman will check on *Equisetum* as a positive indicator for regeneration of spruce or all species, on whether *Epilobium (fireweed)* is a positive indicator for regeneration sites, and on the interaction of site preparation and soil organics.

Paragi noted that the indicators are a checklist, and DOF will need to use judgment and information on specific sites to make the extension determinations.

New Sections Not Discussed in Meeting #1.

S&TC C14, C15/ R7 -- Seed source/known invasive species/records: Freeman provided background on this recommendation. There are not many trees (other than ornamentals) that would potentially be planted in Alaska commercial timberland that are invasive. The S&TC recommended using the Alaska Exotic Plants Information Clearinghouse (AKEPIC) database, deciding that a ranking of higher than 50 indicates an invasive tendency and should be planted.

S&TC C16, R8 -- Site preparation: Freeman presented the S&TC's concurrences regarding effects from site preparation and harvest unit debris retention. Freeman reminded the committee that wildlife standards area different on public lands than on private, and that this will be discussed more under F25, F26. DeLaca said that dense debris in units can hinder planting (especially on Kodiak). Wahrenbrock asked about the 12-inch den site avoidance during site preparation. Paragi said it was meant to raise awareness about relatively rare site features and avoid when possible. On a related discussion regarding a habitat recommendation to leave wood debris for smaller mammals, he said it is a matter of the right balance: leaving too much slash can hinder site preparation, while removing (or piling) most slash and some organic matter is too far the other way and may also reduce nutrient distribution during regeneration.

S&TC C9am, R3am -- Reforestation exemption standards and process: If stands are substantially composed of dead or damaged trees, stumpage value is reduced and the economics of reforestation can become questionable. In such cases, landowners can request an exemption from reforestation standards (e.g., 70% of harvest stands killed by spruce bark beetles on the Kenai received exemptions). The S&TC suggesting adding options to the methods used to document dead and dying stands. The IG concurred; Freeman will develop draft language to accomplish this.

S&TC C10am -- Regeneration reports: The committee discussed including language for Regions II & III similar to that currently allowing reporting "obvious" regeneration compliance in Region I without conducting a survey. Wahrenbrock asked what metric would be used, and whether it could be done as a variation (no survey). Flexibility to use less expensive methods would be valuable where there is obvious success or failure. Freeman noted that the landowner is responsible for reforestation. Agencies can inspect to ensure surveys are credible, but it would be a significant change to shift the burden of conducting surveys to the agencies. Paragi noted that when landowners are allowed up to 12 years for natural regeneration, a survey would still be needed to make sure seedlings meet the standard of surviving on site for a minimum of two years. Freeman captured the sense of the committee by adding alternative documentation language to the regulations recommendation.

A regeneration survey **or alternative documentation** must be conducted in a manner acceptable to the division.

S&TC R3am, R12 -- Interaction with insects & diseases: The committee felt that the information currently in the Act, Regulations, and DPO is OK for reforestation. Selinger asked whether wood products leaving a known infested area were regulated. Freeman commented that forest susceptibility to infestation has more to do with the condition of the forest than the presence of beetles. Spruce forests typically already have beetle populations at endemic levels. Wahrenbrock said he thought utility ROW clearing used to be part of FRPA, particularly regarding housekeeping for insect control; what happened to that language? Freeman will check.

S&TC F25, F26, R5am, R6am, R13 -- Interaction with wildlife: Freeman briefed the committee on the different ways wildlife are addressed by FRPA on public lands (ADF&G has due deference) and private lands (ADF&G has role of extension agent). She also gave background on the S&TC findings related to wildlife. Paragi described the logger tips document he prepared and has distributed for a number of years. Durst suggested that Alaska foresters expand their awareness of wildlife species interacting with logging from moose to all wildlife including furbearers. Paragi said that he and Julie Hagelin are continuing a literature review of wildlife responses to various silvicultural practices that they plan to complete in about a year. They envision monitoring timber sales for both forest and wildlife outcomes to see which habitat guidelines and forest practices are most effective at achieving stated objectives. Paragi will send a copy of the logger tips to the IG.

S&TC C17, C19, C18, R9 -- Invasive species: Freeman led the discussion. Is nursery stock a potential route for invasive species to enter Alaska? Phytosanitary certificates are required for Canadian stock; should the same be required of stock from the Lower 48? She talked with Jeff Graham (DOF), Diane Haase (USFS nursery specialist), Gino Graziano (UAF), APHIS, and others, and collectively heard that no invasive plant species are currently interfering with reforestation. Roadside invasive plants are a problem in places, with bird vetch (on the DNR Div Ag noxious weed list) being the biggest potential weed threat for reforestation. Earthworms are also a concern (Kenai and Anchorage bowl) because of their effects on soils. The biggest overall concern for those contacted was invasive insects.

The general consensus was that seedlings or plugs are generally OK, while ornamental size plantings tend to be a bigger problem. Imports from Canada require a phytosanitary certificate, as do exports from Oregon. There is no parallel system for seedling exports from Washington. Some states have certification for specific pests (e.g., *Phytophthora* mold that causes sudden oak death). The key is to know your nursery and work with them. Consider putting language into contracts that seedlings be certified free from weeds, pests, and diseases. DeLaca said that, in the past, he has planted seedlings known to be carrying gray mold (*Botrytis*). Is this likely more a problem for the stand or the forest? Freeman noted that DOF stipulated that seedlings be free of gray mold in a 2015 seedling contract. Doig commented that seedlings brought to Alaska by truck from the Lower 48 already require the phytosanitary certificate.

Freeman asked if all seedlings being brought into Alaska should be certified/inspected or accompanied by a phytosanitary certificate. The IG recognized that invasive species can be a real problem with economic impacts. The IG's recommendation is that the Board make a request to the Division of Agriculture for phytosanitary certification. Certification could occur through existing processes (e.g., certification of imports from Canada, Oregon's export requirements) where applicable.

Durst led a discussion about cleaning equipment to reduce spreading invasive species (see handout) [primarily plants, but subsequent reading found that this is also effective in removing attached insect life stages and earthworm egg cases]. Pressure-washing equipment as it leaves a site is often recommended. This would not need a permit from DEC solid waste or

wastewater sections as long as done well away from, and in a manner that does not affect, surface waters. UAF Cooperative Extension published BMPs in 2014 for controlling spread of invasive plants during road maintenance. In other jurisdictions, California has specific measures, while Oregon, Washington, British Columbia, Yukon, Minnesota, and others have voluntary guidelines. Doig said that any equipment coming into the U.S. from Canada must be pressure washed. Durst will contact Alaska DOT for clarification on local practices and information on where pressure washing can be done. There was general concurrence in the IG that routine cleaning is good maintenance practice, but there was a concern that controlling invasive species through washing and inspections could be very difficult in rural settings and may not be equitable when the general public would not be under the same strictures for all-terrain and off-road vehicles or highway vehicles. The IG concurred that voluntary guidelines and education should be the approach, at least at this time. During his review of actions and recommendations in other jurisdictions, Durst found that there are some core BMPs that could be useful to share with agencies, landowners, and operators:

- Scout for invasive plants before performing work in an area.
- Identify known locations of invasive plants, report new locations, and make use of local knowledge and groups if available.
- Avoid working in areas with invasive plants, and work from areas without to areas with invasive plants if that is not possible.
- Time your operations to prevent or reduce seed production or seed dispersal.
- Revegetate with native, local, and/or noninvasive species.
- Use certified weed-free materials, including seed mixes, gravel, topsoil, hay/straw, erosion control tubes, etc.
- Clean vehicles and equipment regularly, using high pressure washer and physical removal, before leaving areas with invasive species.
- Inspect equipment when arriving at sites without invasive species.

White Spruce Root Diseases – Lori Winton, USFS State & Private Forestry, Forest Health

Protection: Winton presented a PowerPoint to the IG focusing on root and butt diseases. Most forest pathogens are fungi, and can be doubly destructive if they kill their host and then remain viable in its roots to infect the next generation of trees. *Tomentosus* root rot (caused by the fungus *Onnia tomentosa*) is the most prevalent root disease in Alaska. White spruce is the most susceptible species; other conifers are affected to lesser degrees. *Tomentosus* remains viable in roots of killed trees for 50 years or more, leading to concerns for planting the same species in portions of a stand with *tomentosus*. An accurate diagnosis depends on excavating dead roots. Doig asked how far up the stem root fungi extend? *Tomentosus* extends 15 feet or so, damaging the butt log. Heart rot can extend the entire tree length. *Tomentosus* also causes growth reduction. If spruce trees are found tipped over and have no support roots attached, it's a good chance this is *tomentosus*. The simplest way to assess whether a *tomentosus* problem exists in a stand is to do a stump top or log butt survey for advanced decay and tally the number of affected butts at the log decks. If the stand is affected, there is a concern for replanting with spruce. Stocking in stands replanted with spruce can be reduced 10% by age 20. To minimize *tomentosus* effects and spread in a stand, Winton recommends consideration

be given to harvest by push-falling to reduce residual roots in the soil, planting with less susceptible species (such as lodgepole pine), encouraging birch or aspen, and planting at least 10 feet from infected stumps. *Tomentosus* distribution seems to be largely individual trees or small clumps of trees rather than large clumps or stands.

Committee members asked a number of questions to assist with field identification. Winton said a definitive determination requires laboratory analysis. Stahl noted that he currently has decked logs that show rot. The IG reworked the DPO language about *tomentosus* in harvest units in the natural regeneration checklist as follows.

Where spruce regeneration is targeted, harvest areas are free of known incidence of *Tomentosus* root rot. Note: *tomentosus* can kill regeneration of spruce and, to a lesser degree, pine and larch. If *tomentosus* is present, describe the extent of the problem. Reforestation should be designed to minimize continuation or spread of the disease

In response to a question, Winton noted that *Armillaria* root rot is generally an opportunistic species in areas where trees are already stressed rather than an active agent causing mortality.

Review of DPO Natural Regeneration Checklist Items: Freeman lead a discussion of the DPO checklist of natural regeneration high likelihood of success items. Should an informational note be included on how to proceed if natural regeneration indicators are not positive? Doig asked how DOF was likely to respond if an operator checked several "NO"s. Freeman said it would be useful to give landowners and operators the benefit of collective wisdom from the S&TC and IG. If a DPO came in with many "NO"s, she expects that DOF would contact the operator and/or landowner to work on how to get successful regeneration. DOF tries to work cooperatively with landowners to achieve successful reforestation. If landowners don't address regeneration problems, DOF can issue a directive, stop work order, or notice of violation. Meany said that every "NO" is an opportunity to address a potential problem; DPOs often arrive initially as drafts and DOF and the operator work through issues before the DPO is sent out for review. Young asked if DOF could make recommendations based on which boxes are checked. Freeman said that was the best approach and the intent. Operators are also encouraged to provide site-specific information on site conditions or management intent as they are able.

Wahrenbrock said it costs more to wait if you know you're likely to have problems. In his experience, if one is going to plant it's best to plant ASAP after harvest to get the best return on investment. Then, volunteers and natural/extended regeneration can assist in assuring that standards are met.

Selinger asked about the appropriate response when the stand just looks poor prior to harvest? Douse said such stands may just be decadent and need to be replaced. Young said that, in such a case, the operator just needs to get some value out of the stand.

Paragi asked if applicants should be required to submit DPOs in draft form initially so things could be worked out. Freeman noted that the review timelines are in regulation and that

changing them could be considered a fundamental change in FRPA; landowners can voluntarily submit draft DPOs now. Selinger asked if all these changes were making things too complicated for some operators. Young responded that it would be OK for experienced operators but would require training for new operators or those converting from firewood to timber harvesting. Kalke said it was not overwhelming from his perspective. It is lots of information but all useful to successful operations.

S&TC F16, F19 -- Kodiak applicability: Freeman led a discussion of applicability of the IG's consensus recommendations to the Kodiak/Afognak area as requested by the Board. Her sense was that, before the Region II & III recommendations were applied elsewhere, a stakeholder process for that area would be necessary to make sure recommendations were workable. Doig and Young agreed that local folks would have to examine and apply the recommendations on the local, area-specific situation. Wahrenbrock said that other areas of Region I have some of the same issues as do Kodiak/Afognak, including Moose Pass and the outer Kenai (Seldovia, English Bay, etc.), but that Prince William Sound does not have the problem with grass. Freeman asked if there are things about the Kenai that are different or are the Region II & III conclusions so far are applicable. Wahrenbrock said that all areas have local differences, but that the same general issues and guidance are relevant.

S&TC C7, C11 -- Training needs: There was a discussion of training needs and the IG concurred the need was great. Equally important was the capturing and transmission of institutional knowledge as staff change and retire. Freeman said DOF is very aware of this and has started putting together training materials including notes, how-tos, documentation of decisions (such as that done for the S&TC and this IG), and field guidelines. Young asked that DOF make these materials available in both hard copy and online to maximize accessibility. Douse recommended working with Cooperative Extension foresters to help develop and deliver training. Young added that the Northern Forest Cooperative was a good source of information when that group was active. Douse said that, at the Society of American Foresters meeting, there was talk of needing to revive the group.

Research needs: Freeman went through the list of research needs identified by the S&TC.

R3am: IG concurs. Young asked about after wildfire. Freemans said they were dead trees so no regeneration required. It depends on burn severity (e.g., light burn can lead to grass).

R4: IG concurs.

R14am: IG suggested adding an assessment of different site preparation and regeneration methods. Douse said it would helpful if there was an interior Alaska variant of the Forest Service's Forest Vegetation Simulator (FVS).

R5am: IG concurs.

R6: IG concurs with the intent to encourage larger contiguous sale areas with uncut timber islands, but felt the ability to offer larger areas is largely market driven.

R7: IG concurs. Need to capture John Alden's knowledge. DOF should do that.

R8: IG concurs. This is focused on birch stands where there is a risk of competition from grass.

R9: IG concurs. Need to capture John Alden's work and remeasure provenance trials.

R10: IG concurs.

R12: IG concurs.

R13: IG concurs. Paragi said need to extend Fennoscandia and North America data on coarse woody debris in harvest units to Region II & III to see how it affects small mammals and their associated mycorrhizal fungi in the Alaska boreal forest.

Handouts

- Agenda
- Contact list
- Draft minutes from April 4 meeting
- Science & Technical Committee recommendations with IG notes
- Summary chart of S&TC recommendations and IG consensus points
- Draft threshold conversions
- S&TC info on stocking density
- Draft DPO Supplement
- Background information on invasive plants and insects

NEXT MEETING: Thursday May 19, 2016 with the same teleconference sites.

TO DO LIST.

Jim and Tom:

- Distribute logger tips document to Implementation Group. (*done*)

Jim and Marty:

- Draft minutes and distribute to Implementation Group for review.
- Follow up with Joe Young regarding riparian buffers. (*done*)

Jim:

- Contact Alaska DOT for policies and actions to control invasive plants and their distribution. (*done*)
- Send out references on earthworm effects in boreal forests. (*done*)

Marty:

- Check with Jeff Hermanns for Tok volume conversion formulas.
- Put together draft of conversions as it might appear in purple book.
- Check on *Equisetum* as an indicator, and on the interaction of site preparation and soil organics. (*done*)
- Prepare draft language on methods of documenting dead and dying stands for reforestation exemption requests. (*done*)

Lori Winton

- Send photos of rotted stumps exhibiting both tomentosus and heart rot.