

Minutes
Region II-III Reforestation Science & Technical Committee (S&TC)
Meeting #10 – September 24, 2015

DNR Large Conference Room – 3700 Airport Way, Fairbanks
DNR Conference Room – Suite 1450, 550 W. 7th Ave., Anchorage

S&TC Attendance

Roger Burnside	Glenn Juday	Will Putman
Jim Durst, co-chair	Nick Lisuzzo,	Trish Wurtz
Marty Freeman, co-chair	Mitch Michaud	John Yarie
Doug Hanson	Tom Paragi	Brian Young

Unable to attend: Nancy Fresco, Teresa Hollingsworth, Amanda Robertson, John Winters

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

Agenda and minutes. The Committee approved the agenda and the minutes from the September 8, 2015 meeting as corrected.

Public Input since September 8. Freeman reported that she has talked with Rick Jandreau, Mitch Michaud, and Hans Rinke to be sure the committee’s findings are relevant to both regions II and III including the Copper Basin. Comments regarding the Mat-Su area have been incorporated into the chart.

CONSENSUS POINTS

Freeman led continuing discussions of existing standards and recommend changes, updating both the Draft Consensus Findings and Recommendations document and the Draft Review of Standards matrix. See those document updates as attached.

Consensus points added or amended as part of the September 8 meeting were reviewed. In the versions handed out, starred items were added at that meeting.

White spruce seed viability & recruitment (F2)

Michaud: White spruce recruitment continues for some time, but the level varies. A seed can always sprout and grow. The question is whether recruitment is enough to be effective. White spruce and birch both germinate from seeds on the surface, not buried seed. Yarie noted that it would be helpful to know the seedfall/square meter. Juday clarified that F2 addresses even-aged management systems.

Aspen suckering (F7, F14)

Michaud: Temperature increases can stimulate aspen suckering even when there isn't other site disturbance.

Grass competition (F9)

Juday: Add in soil moisture to description of areas most susceptible to *Calamagrostis*.

Indicators for natural regeneration (F14)

To-do: Check the source of the 2% threshold for grass cover prior to harvest in F14.

Young: The study on association of *Equisetum* with good spruce germination and survival was on a floodplain site. Juday said that the evidence is from both floodplain and upland sites.

Natural and artificial regeneration (F19)

Rick Jandreau's comments noted that landowners have varying goals for their property – some want to emphasize wildlife habitat in their management.

As written, F19 refers to landowner goals for reforestation.

Stocking distribution (C8)

Freeman noted that the distribution standard for stocking in Oregon is also 80%, the same as the C8 recommendation. Juday noted that this standard allows for continued ingrowth after the time of the regeneration survey.

Region II applicability

Discussions continued on remaining issues not addressed at the September 8 meeting.

Wildlife interactions (F17, F20, C20, C21, R6)

Hagelin and Paragi recommended additional language regarding wildlife habitat and reforestation. It is beneficial to promote predator diversity by keeping key habitat elements. This also maintains other ecosystem services such as fungal spore distribution by small mammals.

Hagelin will review information on seed-caching by Alaskan species.

See also section on site preparation re C16 for protection of den sites.

Insects and diseases (F24)

Michaud: Retaining coarse woody debris benefits wildlife but increases damaging insects. How do we reconcile them?

Juday: When insects are in endemic mode, predators (e.g., woodpeckers that prey on beetles) provide adequate control of insects. When insects are in epidemic mode (infestation), predators are overwhelmed. The spruce bark beetle epidemic occurred where there was lots of beetle habitat and optimum climatic conditions for rapid beetle reproduction.

Durst: Hardwood tops left from harvesting do attract herbivores in the first year after felling.

Hanson: Most Region III harvesting is whole-tree harvesting that doesn't leave slash in the woods. Slash piles at landings can be salvaged for fuelwood, burned, or left.

Paragi: Seasonal harvesting effects on slash and woody debris would be a good research topic – e.g., more limbs are broken during winter harvesting.

Burnside: Research has been done on various fuel decks and insect populations, but the studies didn't include tightly packed fuelwood decks.

Conclusion (F24): Green, conifer debris is the primary concern for fostering insect outbreaks. Dead wood and hardwood debris does not create conditions for outbreaks and helps maintain habitat for wildlife species that can promote successful regeneration

Kodiak briefing and applicability

Hans Rinke, Div. of Forestry Kenai-Kodiak Area Forester, briefed the S&TC on Kodiak-Afognak harvest operations, reforestation issues, and the recent fire on Kodiak Island that included areas that had been harvested and replanted. See PowerPoint presentation on the DOF website at: <http://forestry.alaska.gov/forestpractices.htm#reforestation> . Freeman also presented data on the amount of Kodiak-Afognak harvesting compared to other areas in Regions II and III (included in PowerPoint above), and a chart summarized past and ongoing reforestation issues (see handout). The scale of harvesting on Kodiak and Afognak has been greater than operations in other Region II-III areas. Rinke said that harvesting on Kodiak will finish this year; Afognak operations probably have another 5-8 years.

Rinke: Since 2010, DOF has required planting with two years of harvest on Kodiak and Afognak islands. In Region I, the standard for seedlings is 200 trees/acre that have survived on site for at least two years; the deadline for meeting the standard is five years after harvesting.

Landowners usually plant about 300 trees/acre, which yields 225 or more trees/acre after two years. This approach has produced successful regeneration. Planting quickly after harvesting also reduces hare and vole predation, probably due to a decrease in cover on the site. Hare populations have recently declined.

Michaud: Prior to 2010, landowners tried many treatments, including spraying herbicides and mowing to decrease grass. Herbicides reduced grass cover to 3-4 years after treatment.

Rinke: Afognak has less grass than Kodiak, but more salmonberry and Devil's Club.

Regeneration persists somewhat better on Afognak. New forest cover is extending into *Calamagrostis* fields south of the Chiniak Peninsula on Kodiak Island. Volcanic ash deposition probably spurred some forest regeneration after past eruptions (e.g., Katmai, 1912). The only trees in these forests are Sitka spruce.

Freeman reported that landowners on Afognak had done some provenance trials. Stock from Queen Charlotte Island seed grew best. Landowners chose to use stock from Juneau seed for operational plantings due to concern that stock from too far south might be susceptible to late spring/early fall freezing. The stock from Juneau seed also grew better than the local seed source.

Rinke: There are some parallels between Kodiak and Region II reforestation conditions. Hare herbivory occurs on the Kenai Peninsula. Planting has been successful on the Kenai and is now successful on Kodiak/Afognak. Regeneration success on Kodiak/Afognak requires either early artificial regeneration or waiting a long time for natural regeneration – it will eventually come, but how long it will take is the question.

Juday: There was a Pacific climate regime shift in 1976-77. The Kodiak area is susceptible to maritime influences. There is a similarity between peak years of tree establishment in the Harris 1972 study (see bibliography) and temperature anomalies. Treeline is still advancing in this area. Juday hypothesized that at 2-3°C temperature increase is favorable to tree establishment in this area. This is consistent with the success of seed stock from the Queen Charlotte Islands. Kodiak may be a “winner” in terms of tree establishment and growth in a warmer climate.

Non-native and invasive species and seed sources

Wurtz: Planting non-native species can increase diversity and have a role in adapting to climate changes. On the downside, there is a concern that non-native species could become invasive, as has happened with bird cherry (*Prunus padus*).

Lisuzzo: Most non-native tree species are probably fine, except for bird cherry.

Durst: Planting non-native species brings in other things as well – pollinators, insect pests, etc. It is risky. Moving stock of native species among different provenances is OK.

Juday: There are risks, but we shouldn't erect barriers.

Conclusions:

F21. Recent research has shown that seeds from more southern latitudes are growing better than local seed sources. *Cite Amanda and other assisted migration research.*

C13. As noted in **F19** natural regeneration and artificial reforestation can both be beneficial in achieving reforestation goals. When artificial reforestation is the chosen approach, given changing climate conditions, sound options include

- 1) Using seed/seedlings of native species from a similar latitude, climatic area, and elevation,
- 2) Using seed/seedlings of native species from similar conditions in a mix with seed/seedlings from up **to 5 degrees** latitude south of the planting site (*cite Amanda's research*),
- 3) Including species that have been demonstrated to naturalize in Alaska without becoming invasive, including lodgepole pine and Siberian larch.
- 4) Providing for systematic evaluation of operational-scale assisted migration trials.

C14. Species rated higher than 50 on the AKEPIC list of invasive species should not be planted. For example, bird cherry (*Prunus padus*, rated 74) should not be planted as it has been documented to be harmful to native ecosystems.

C15/R7. The importance of good records on seed source is increasing as climate changes. This information will help inform research on adaptation to climate change and reforestation success. The S&TC recommends that

- 1) landowners maintain records of seed and seedling sources, and
- 2) a group be convened to address questions of successes and risks in selecting seed sources.

C17. Seeds or seedlings imported from outside Alaska should require a phytosanitary certificate. Certificates are already required for imports from Canada.

C18. Invasive plant species are becoming increasingly widespread in Alaska, and some invasive species have the potential to impact reforestation. For example, bird vetch (*Vicia cracca*) has been documented in forest areas covering seedlings and saplings. Equipment used for scarification or planting can introduce invasive species to harvested areas. Before equipment is used on a reforestation site, it should be cleaned and inspected to minimize introduction of invasive species.

The S&TC recommended that C18 also be considered for harvest equipment. The S&TC recognizes that this can be a challenge for landowners and operators and encourages the Implementation Group to consider ways to encourage voluntary adoption. The Committee notes that there has been some history of success with voluntary compliance in other industries, e.g., gravel sales.

Freeman will check for invasive species prevention provisions used on rehabilitation of fire control lines in Alaska and on Mat-Su timber sales.

Climate change

Michaud: John Morton (USFWS-Kenai National Wildlife Refuge) asked whether a change to open woodland is acceptable on the Kenai where climate models predict increasing grasslands due to climate change and more frequent light fires. Will we continue to require reforestation to the same standards in this area?

Juday: We need to recognize the potential for large-scale issues such as insect infestations and plan ahead.

Freeman: The regulations (11 AAC 95.375(e)) allow for time extensions in the reforestation standards when there are problems due to “circumstances beyond the control of the landowner.” If a landowner has met the reforestation requirements to the satisfaction of the Division prior to loss to fire or other occurrences, they would not be required to replant afterwards.

Site preparation

Rick Jandreau’s comments noted that site preparation can limit the availability of nutrients, especially if the equipment scalps too deeply. The S&TC agreed and added this consideration to **F20**.

Paragi: Prescribed fire should be recognized as a valuable option for site preparation even though it is difficult to conduct. We usually can’t often conduct a burn that is hot enough to achieve the desired effects (e.g., reducing the organic mat) because the conditions to do so usually coincide with high risk of wildfire. The S&TC agreed and added this consideration as **F22**, and added a research recommendation on optimum conditions and timing for use of prescribed fire to achieve tree regeneration in birch-dominated stands where grass competition after disturbance is a concern (**R8**)

The S&TC also added **C16**: Mechanical site preparation should avoid driving heavy equipment over den sites greater than 12” in diameter (e.g., dens for fox, wolves, bears).

NEXT MEETING DATE AND AGENDA

The next meeting is scheduled for **Thursday, October 22, 8:30 a.m. – 12:30 p.m.** with teleconference webinar sites in Anchorage and Fairbanks. The agenda will include:

- Review the consensus points from today's meeting
- Determine whether some or all of the recommendations from Region II and Region III are applicable to the Kodiak-Afognak area. Freeman will work with Michaud and Rinke to bring recommendations to the S&TC.
- Check with climate change members to be sure consensus points are consistent with their findings on climate, seed sources, and adaptive migration.
- Agree on the final package to present to the Board of Forestry at their November 12 meeting.

Research recommendations

Juday: There is no researchable question at this time for **R1** on the FRPA applicability threshold.

Juday: There is no evidence of recruitment failure due to insect infestations in hardwoods (**R2**). The S&TC dropped **R1** and **R2** from the list of research recommendations.

To Do List

▶ **Freeman and Durst:**

- Draft Minutes #10 and summary of draft consensus points (draft attached)
- Post final minutes #8 and #9 and send them to the mailing list
- Finalize date, agenda, and locations for next meeting

▶ **Freeman, Michaud, and Rinke:** review and sort consensus points for applicability to Kodiak

▶ **Fresco and Robertson:** review consensus points on climate change, seed sources, and planting out of provenance.

Other attendees

Julie Hagelin, ADF&G

Hans Rinke, ADNR

Handouts

Agenda

Minutes from 9-8-15

Draft consensus points from 9-8-15

Chart of consensus points with provisions of FRPA and its regulations from 9-8-15

Copy of PowerPoint re Kodiak area harvesting and reforestation