

Williams Lake Climate Change Adaptation Workshop – Notes

February 28, 2013

Personal observations:

- Early spring
- Shorter, warmer cold snaps
- More crust on snow –advantage predators
- Bigger, more complex fires
- Budworm northward migration
 - Climate caused?
- Increasing disease
 - Increased awareness, or increased incidence?
- Climate has always been changing, no demonstrable increase in temp last 15 years
- Terminal bud mortality
 - Major event in late 80s widespread damage interior on all conifers except pine
- Seasonal periodicity changing
 - Burning windows later
 - Could relate to changing practices e.g. larger openings
- Wind patterns and intensity
- Early spring melt and run-off
- No outdoor hockey
- Loss to ski hills
- Increased tree growth from CO2 fertilization

Vulnerable species and where and why

- Spruce in the SBS of the plateau due to drought stress and forest health
- Lodgepole pine in the IDF and SBPS on drier areas due to Elytroderma
- Douglas-fir in grassland-forest interface – less precip, drier conditions
 - Shifting margins
- Whitebark pine in ESSF – already at the margin, assaulted by blister rust and MPB

Vulnerable ecosystems and where and why

- Salmon streams – low flow, warmer temp, no possibility to move to better habitat
- High elevation forests – trapped between inhospitable alpine and upward shift of lower-elevation species
- Wetter SBS – lose cohort of spruce in wetter subzones
- Forested wetlands – dropping water-table produce may result in wetland ecosystems, conversion to productive forest

Species Exercise (IDFdk3)

Discuss what might cause you to promote or demote a species within for a specific BEC site series today, knowing that it will be under a different climate in the future.

Promote:

- Species that are broadly suitable across all future climate envelopes e.g. Fdi
 - May need shelter for establishment
- Py – caution about suitability as a merch species
- Use the diversity available to you
- hardwoods

Demote

- Pli where disease and drought risk make it less reliable

Describe who you think should be involved in the elements necessary to consider for any changes – e.g., feasibility, reliability, productivity?

- Market/Managers
- Policy-makers
- User groups, stakeholders – land use plan
- Researchers – silviculturists, ecologists
- Experienced professionals
 - Here and elsewhere (e.g. for new species)
- Geneticists/Breeders
- Nursery
- Forest health specialists
- Designated decision maker and reviewing staff

Species directional shifts

IDFdk3

- Fd as a primary species – use shelter as necessary
- Desire to use Lw not supported by research yet
- Maintain presence of Ep and At

What information would be useful?

- Research results
- Try on a small scale to learn
- Caution – set up for monitoring
- Knowledge of sites/ areas and their changes
- Systematic observation
- Adaptive management with shared risk – a cooperative?

What will you now do differently as a result of the workshop?

- Increase diversity in planting programs
 - Genetic differences
 - Genetic worth of Sx
- Think both at the stand and the management unit
- Less stand conversion
- Harvest with regeneration in mind
 - Leave shelter
 - Shape and configuration of openings
- Increase planting density
 - Redundancy, allow for mortality, improve quality
 - Use natural regen to bump up density
 - Pine natural regen now fails due to lack of seed
- Manage residuals for more
 - Refugia
 - No-harvest areas
 - Structure
- Prompt regeneration
- Familiarize with existing tools
- Reduce brushing to maintain diversity
- Retain woody debris on site