

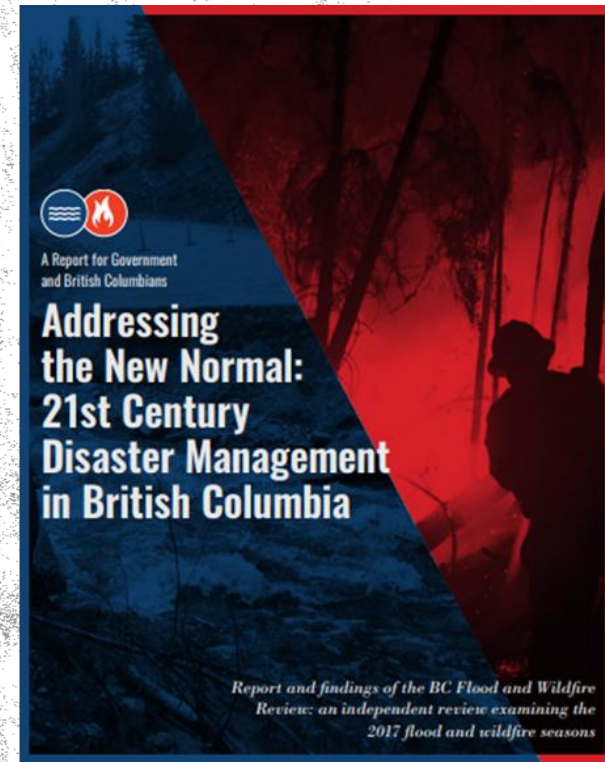
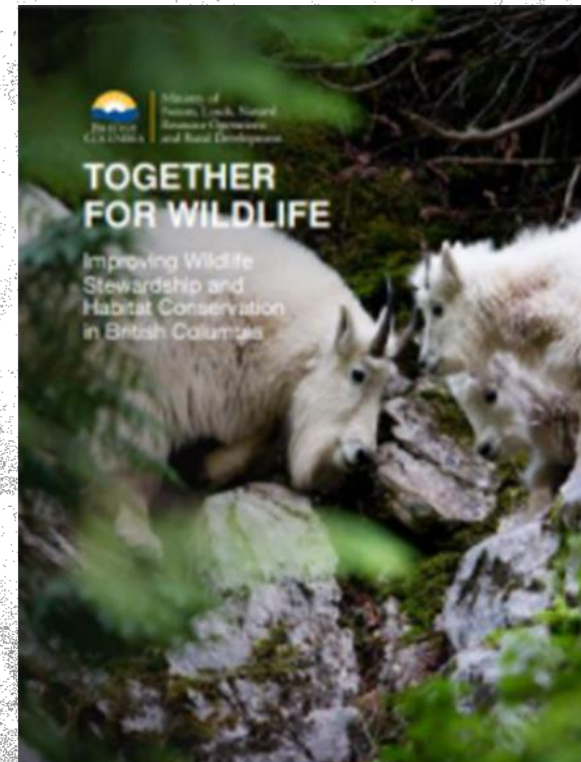
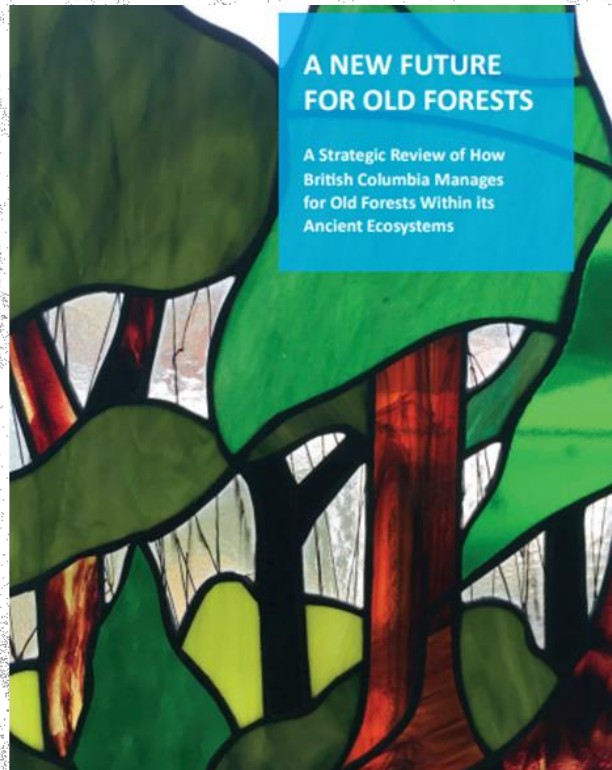
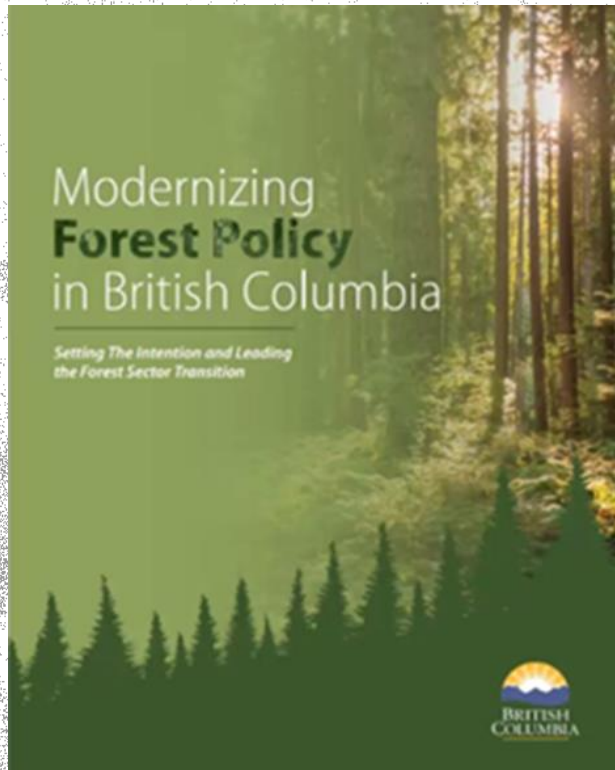


A new Approach to Interior Broadleaf Management

The Interior Broadleaf Working Group

Presentation to ITAC, January 10, 2023

“The status quo is not an option”



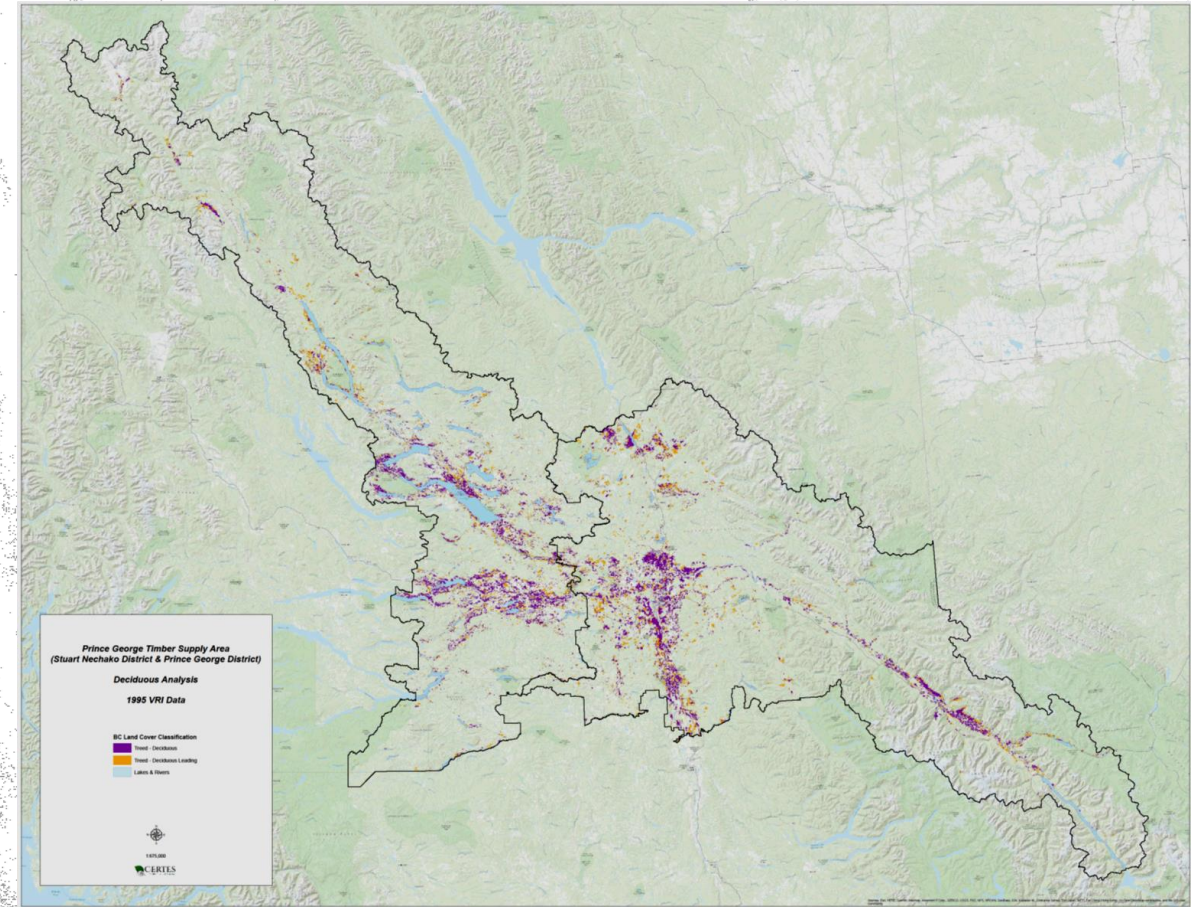
Interior Broadleaf Working Group Vision

To promote resilient, healthy ecosystems with broadleaf management strategies that spatially manage timber and non-timber values on the landscape.



IBWG GOALS

1. Inventory of broadleaf species
2. Gather information
3. Evaluate cost/benefit of brushing
4. Develop strategies to manage broadleaf species based on objectives
5. Impact of strategies on timber supply
6. Review free growing
7. Report results
8. Extension





First Nations Values

Resilience

Wildfire Mitigation

Forest Health

Timber

Disease

Pests

Wildlife Habitat

Broadleaf Species

Water

Connectivity

Biodiversity

Riparian

Age Class

Climate Change

Restoration

Seral Stage

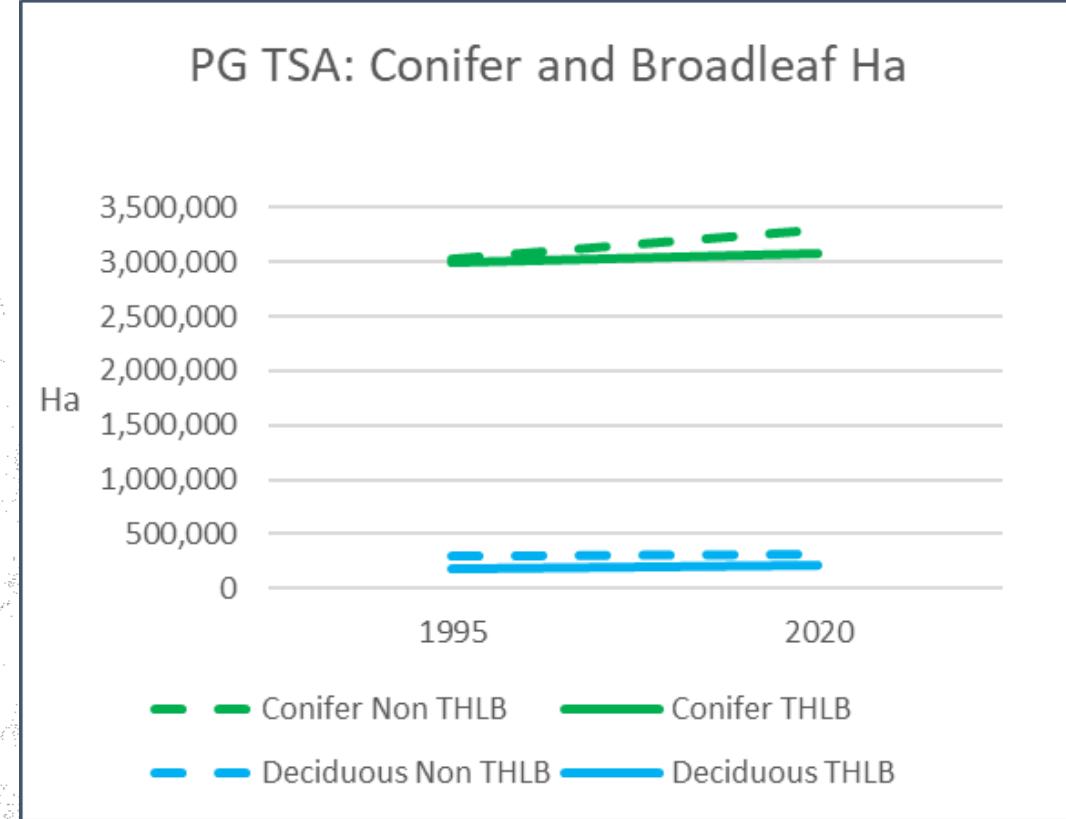
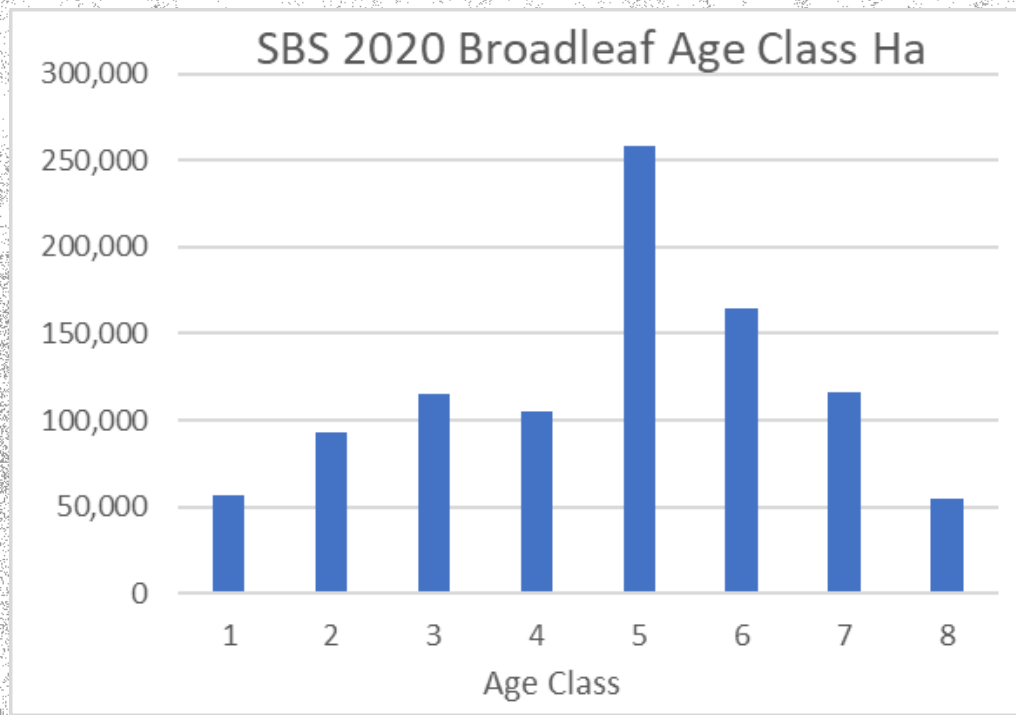
Old Growth

Legacy Trees

Carbon Balance

VRI Analysis PG TSA

- 7.6% Broadleaf in 2020
- At dominant, Ac & Ep scarce
- Mostly in SBS dw, mk, wk, dk
- Quality of VRI for broadleaf uncertain



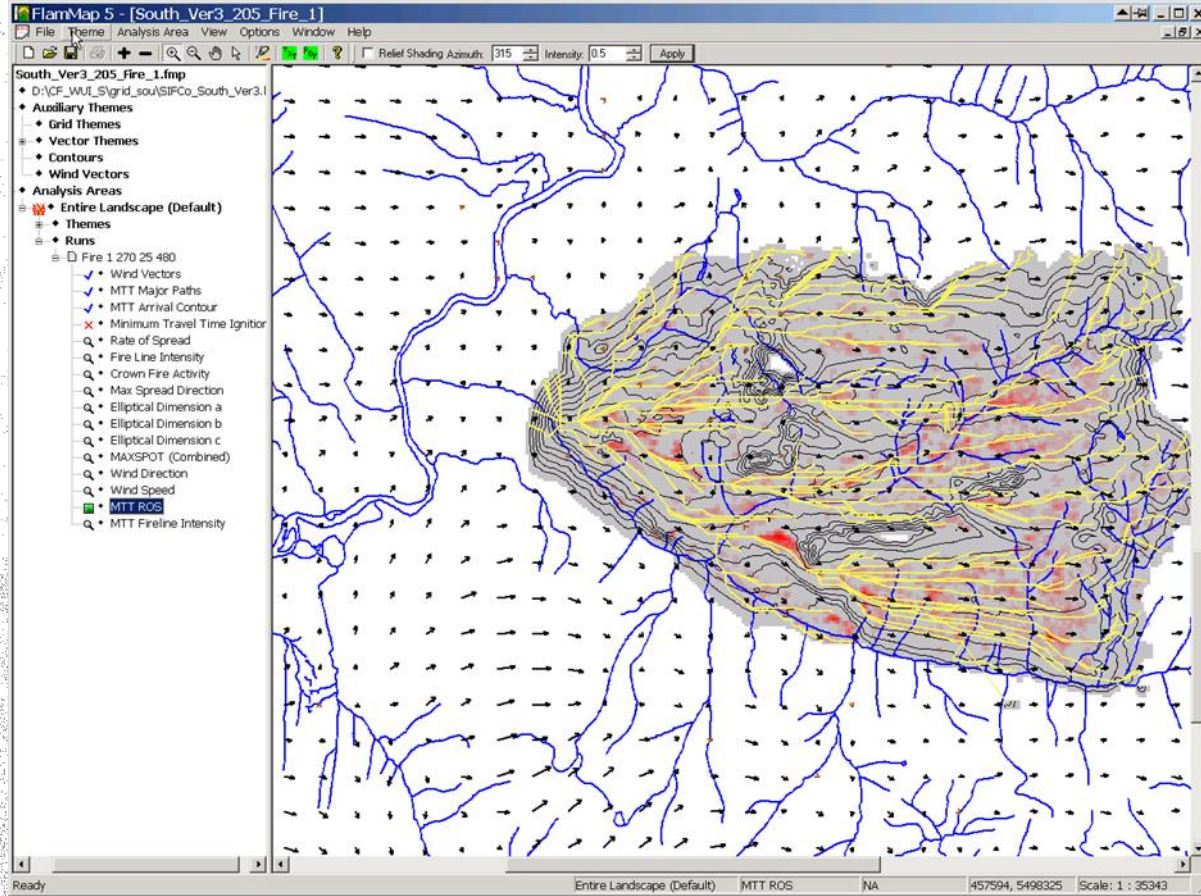
- Mature age classes not on track to be replaced

Mitigating Wildfire Risk

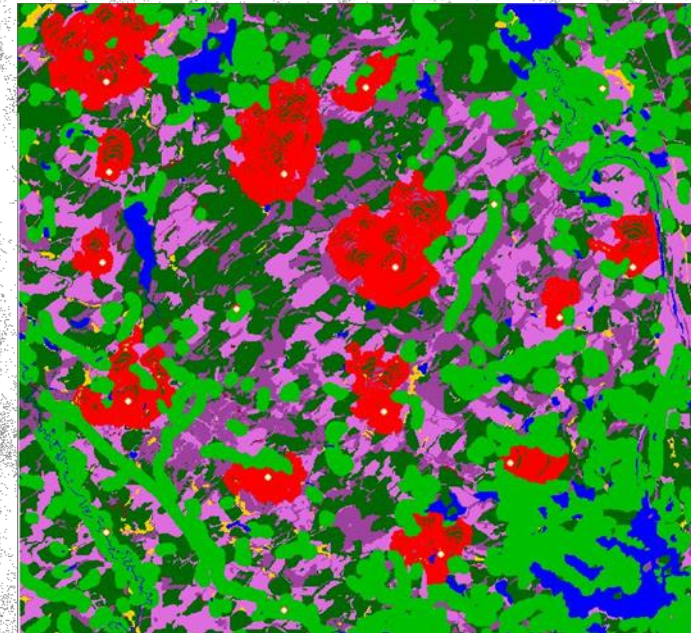
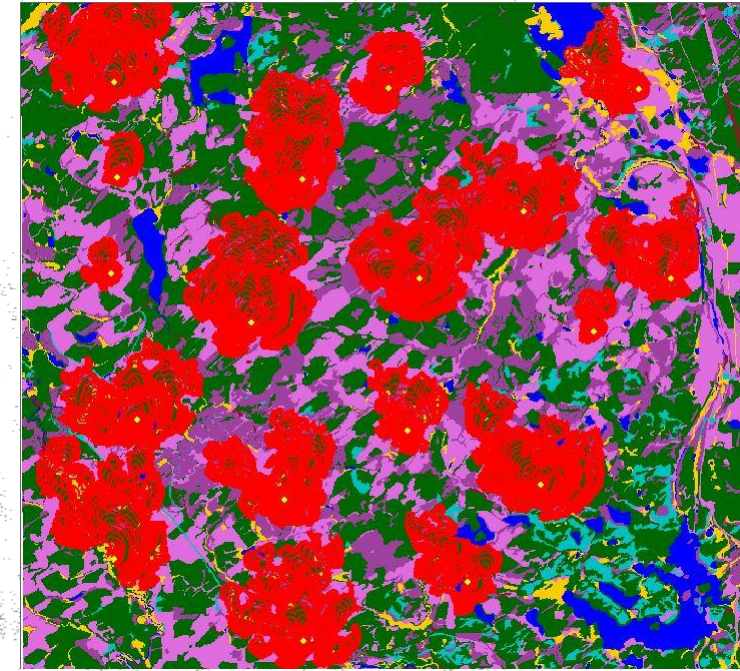
- Broadleaf management strategies to mitigate wildfire risk
 - Linear breaks to protect features
 - Diversity, mosaic of broadleaf patches on the landscape
 - Protect/enhance riparian areas
- Funded PICS intern and Consultants Bob Gray / Forsite
 - Literature review
 - Modelling



Mitigating Wildfire Risk with Aspen and FlamMap Modelling

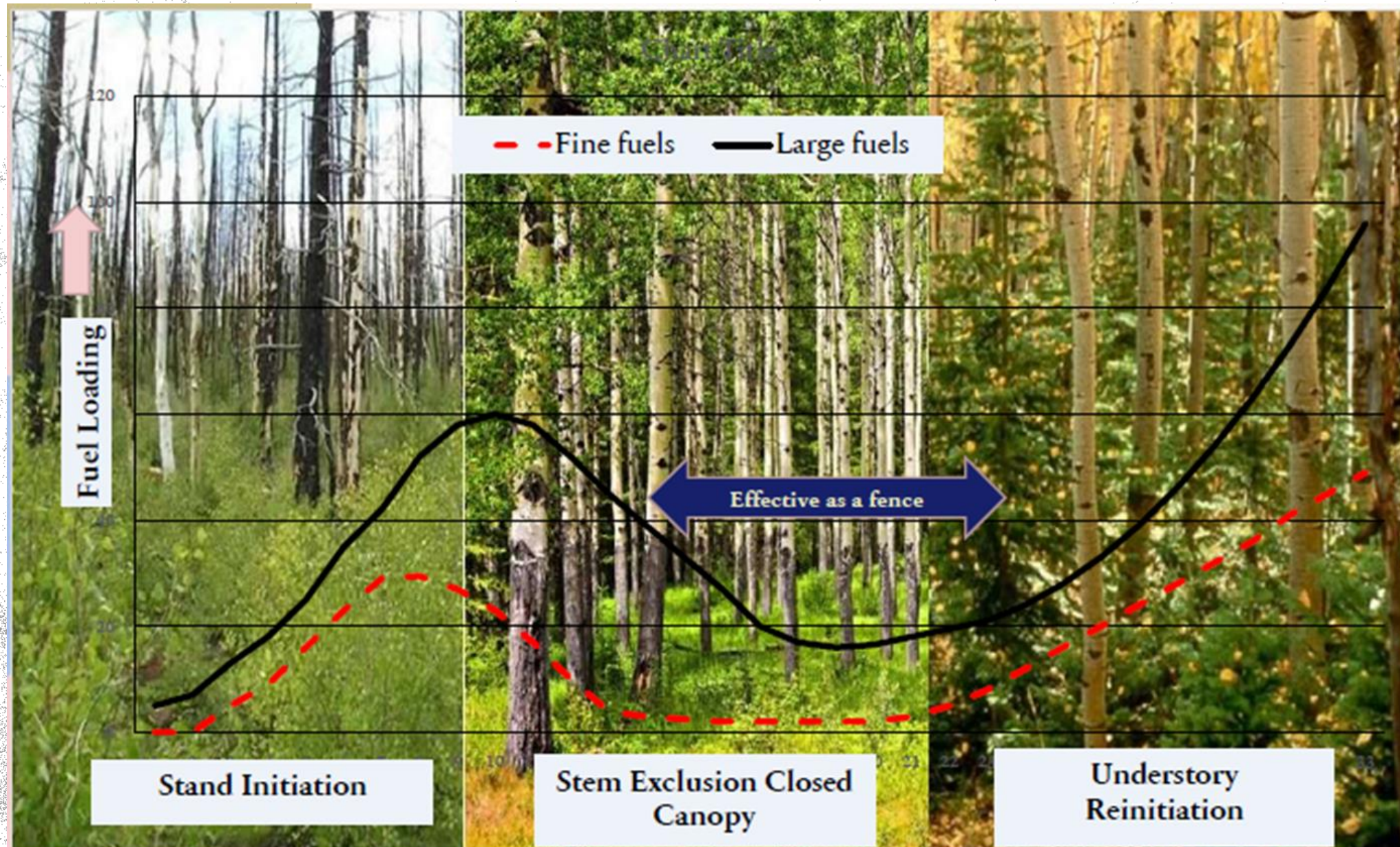


Baseline fire spread



30% of forest cover aspen

Aspen succession and fuel dynamics



Wildlife Habitat

- Opportunities with existing deciduous silviculture challenges?
- J. Werner – better ecological outcomes
 - Preserve legacies
 - Targeted natural regeneration
 - Reduced stocking
- First Nations and local input



Current Options for Managing Broadleaves

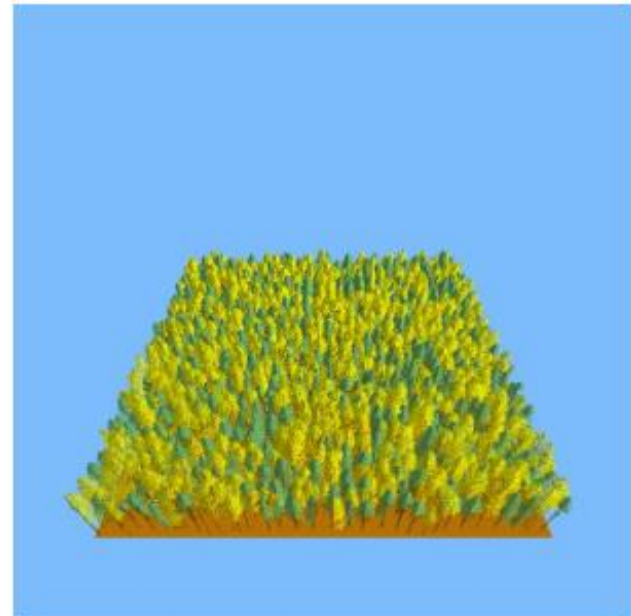
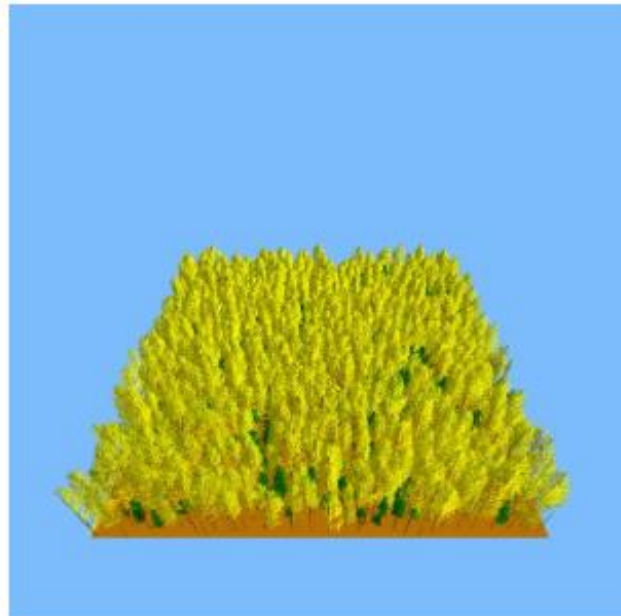
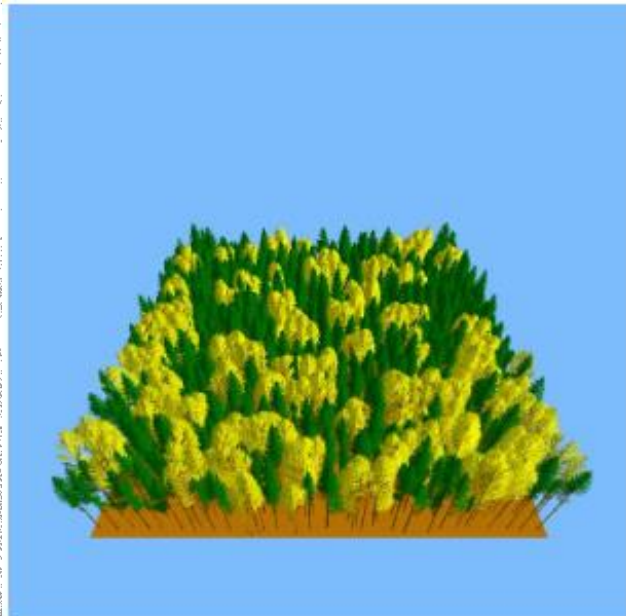
FSP/SP Forester	Layout Forester	Surveyor	Silv Forester
Variances from normal stocking standards	Retain broadleaf species (dispersed or group retention)	Apply FPPR 46.11	Use selective vegetation management treatments
Broadleaf/ mixedwood stocking standards	Choose appropriate silviculture system	Apply variances from normal stocking standards	
Unique competition criteria and procedures		Choose appropriate competition evaluation criteria to maximize FG trees	
Multi-block stocking standards			

Brochure in Progress:

Vegetation Management: Planning and Implementing

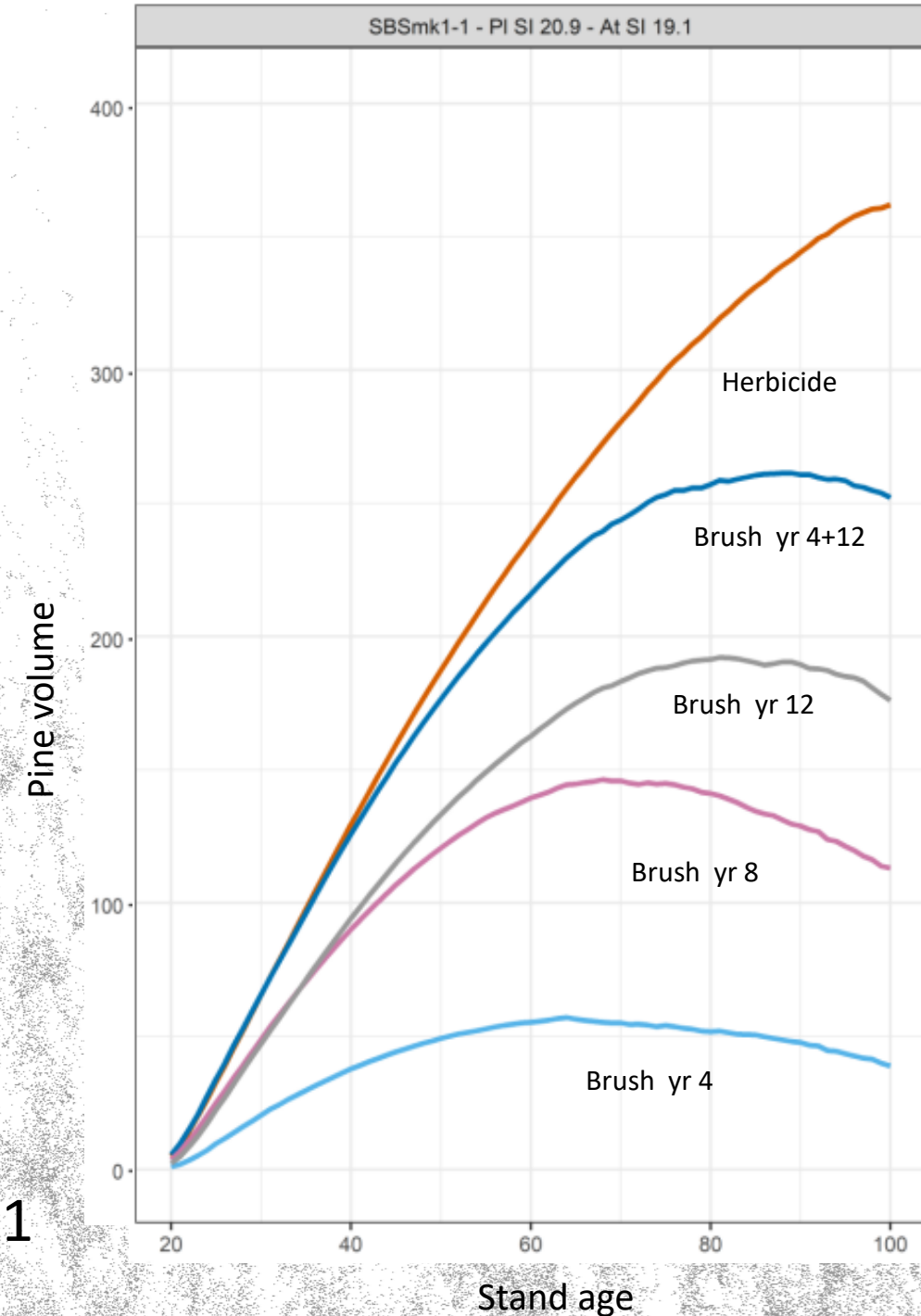
Brushing Cost Benefit Analysis

- Modelling
 - TASS – pine, aspen
 - MGM – pine, spruce, aspen
- Guidance for vegetation management



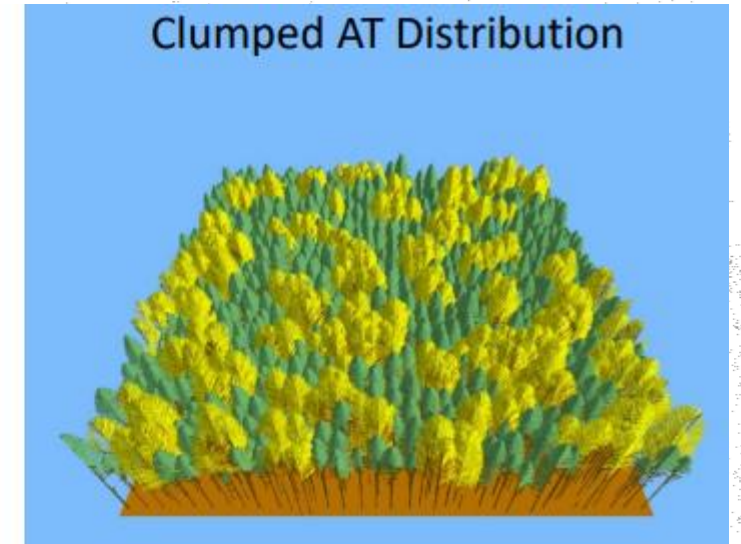
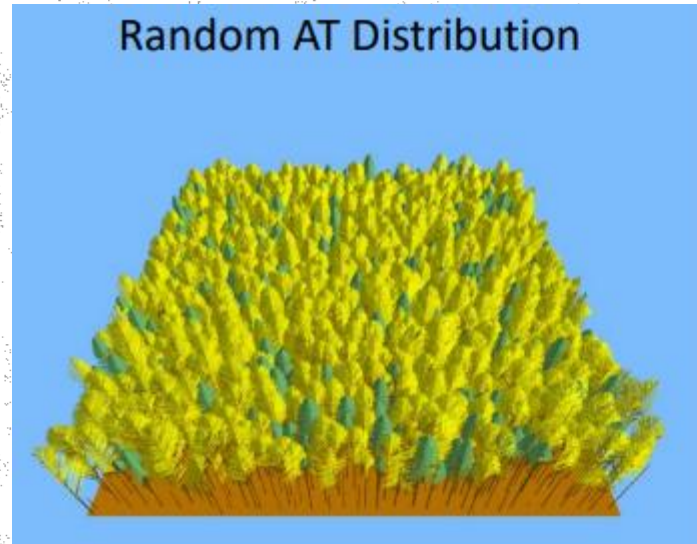
Brushing Analysis

- Various densities of aspen and brushing scenarios modelled in the SBS with TASS (PI) and MGM (PI, Sw)
- Species site index is an important driver
- High aspen densities had small impacts on Sw volume and some large impacts on lodgepole pine.
- Example aspen brushing scenarios on pine, SBSmk1 (McWilliams 2021)

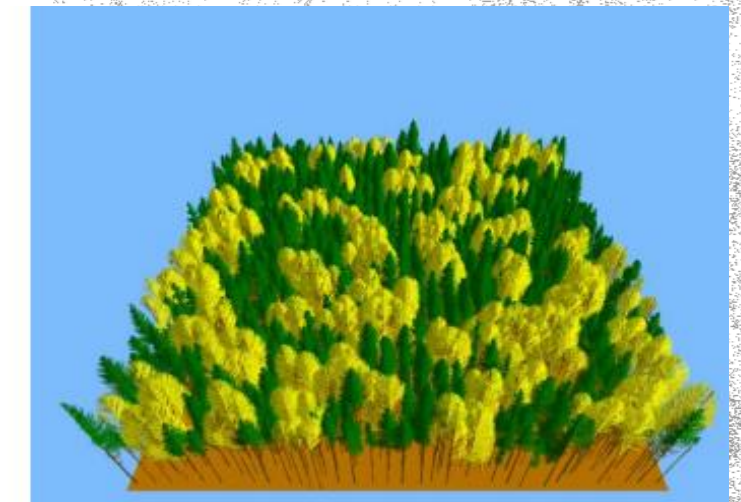
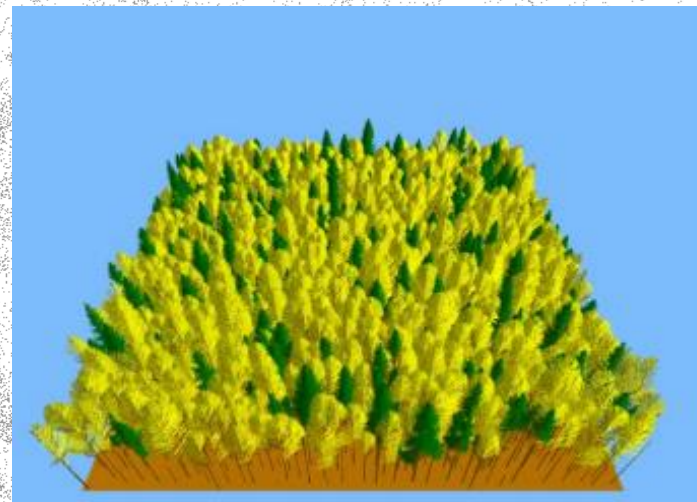


Broadleaf Strategies to Minimize Impacts to Timber Supply - example

- Clumped or Random distribution of aspen
- 1000 sph At, 1000 sph conifer, same SI, age 80



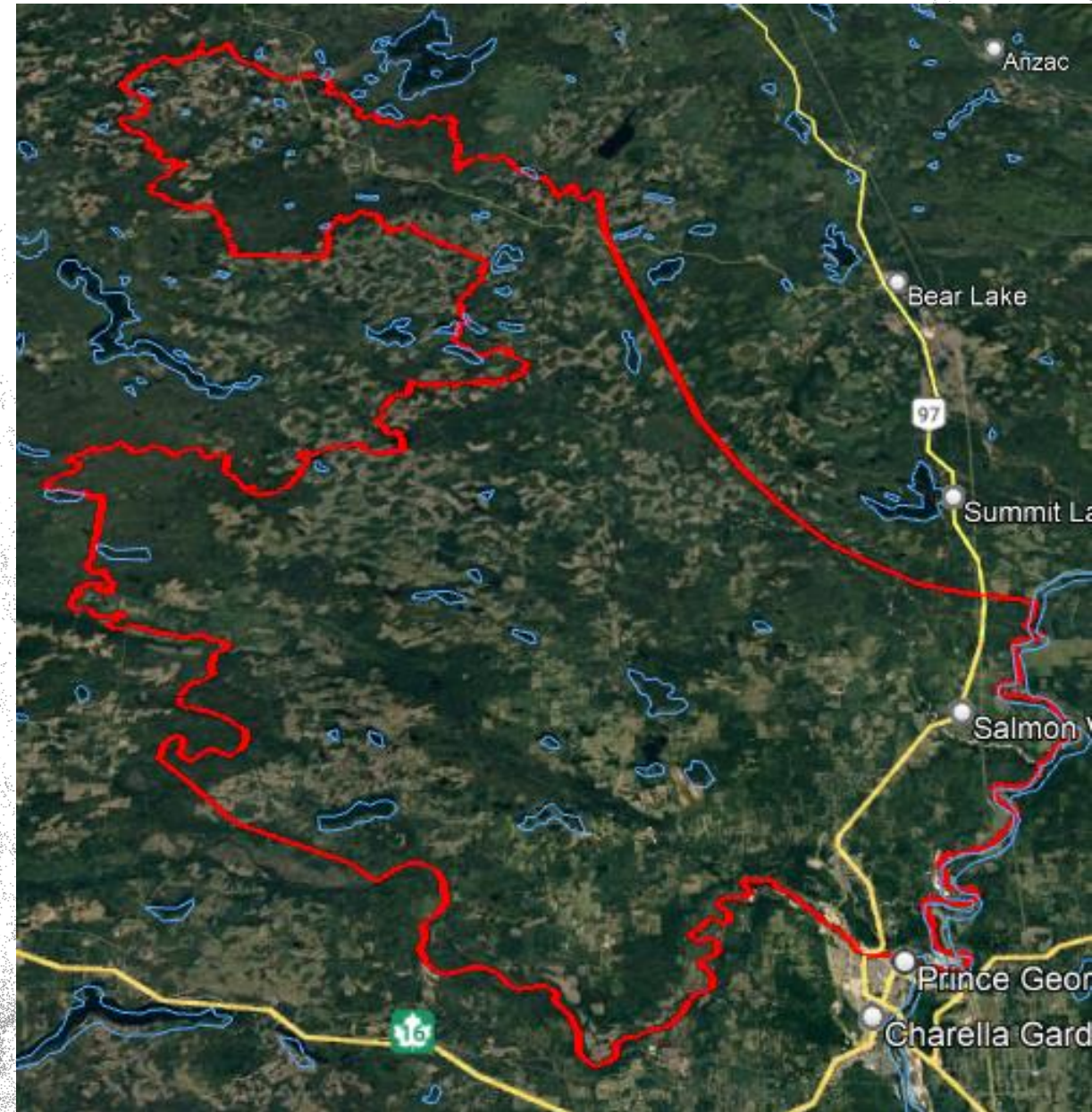
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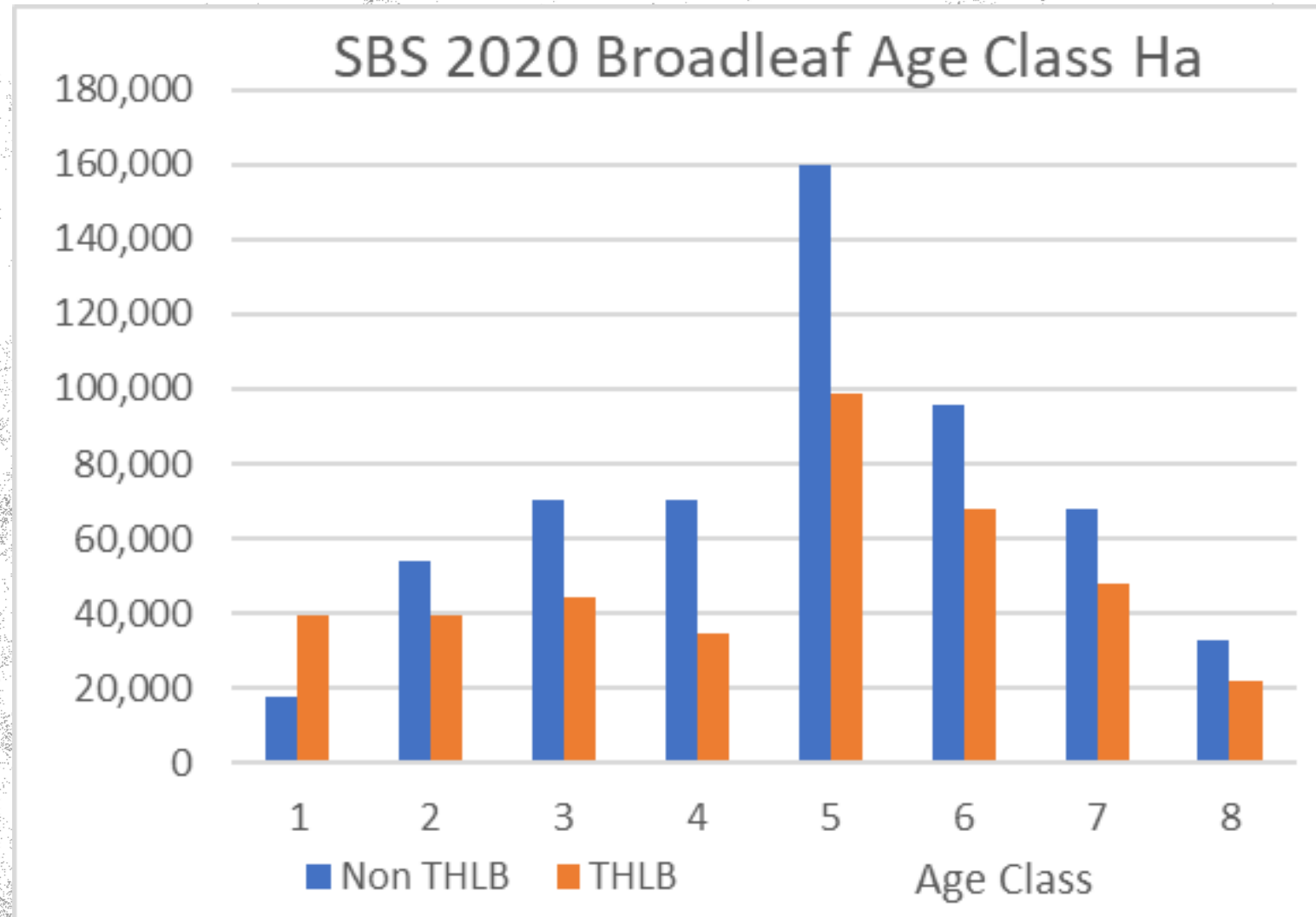
A Pilot Study Area

- Need to engage at local level on practical case study to develop strategies
- Trial process and expand to TSA
- % targets
- Inventory deep dive
- Where can we manage aspen strategically?
- Address aspen brushing
- Treatments on the ground



Focus on Old Seral Attributes

- Focus on old age classes
- Maintain/recruit young seral stages
- Target % species on landscape
- Landscape segment provides managers flexibility to manage broadleaf species for multiple values



Strategy Development

- How much do we need, what's the target?
- Zoning? Where to focus
- Strategy per objective?
- Species area targets?
- Approach?



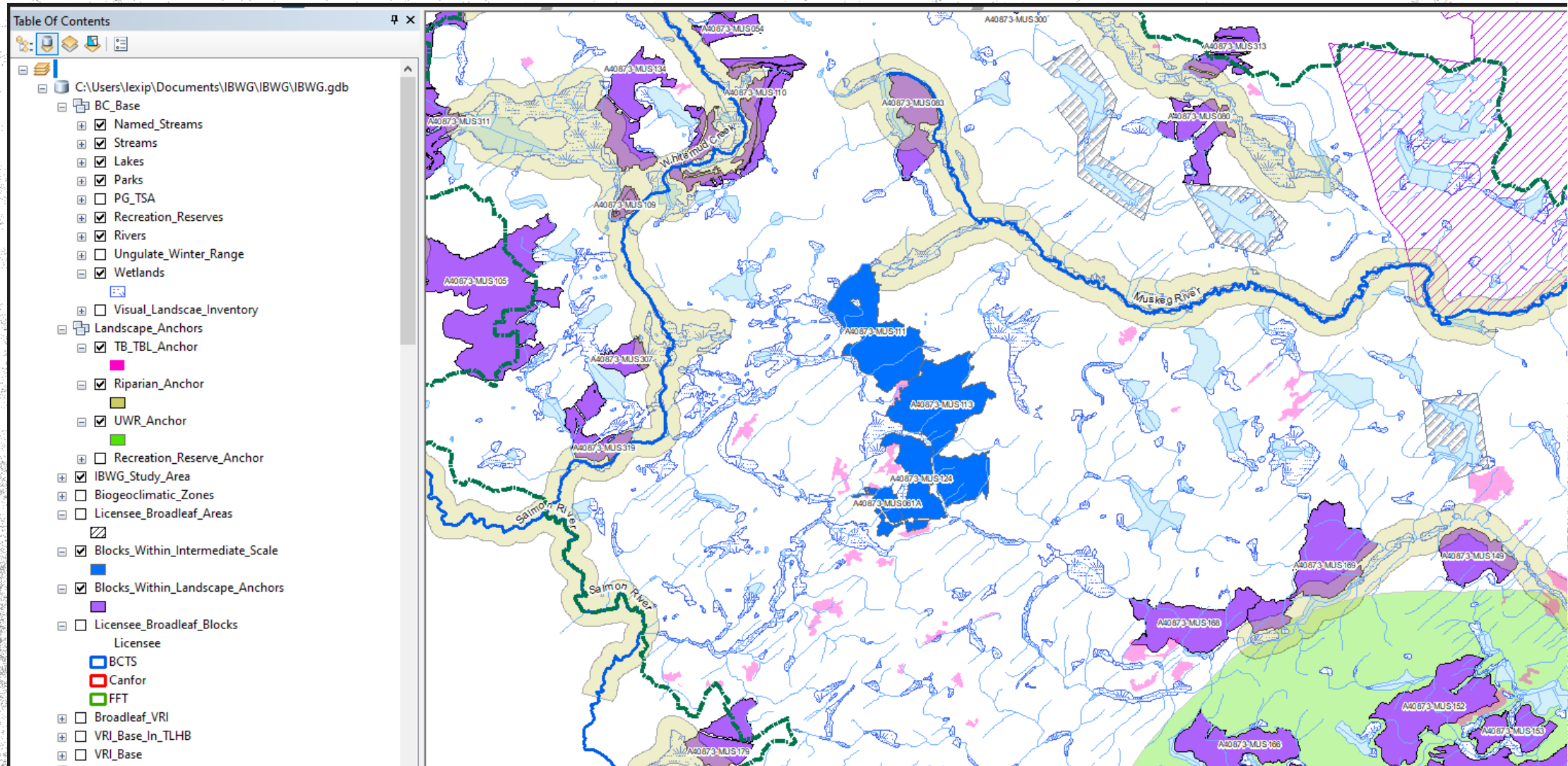
*Age Class distribution by **Broadleaf variable** (Pure >75%, Leading 50-75%) and THLB, with estimated targets and recruit areas for the THLB*

Age Class	Non THLB			THLB			Total	Total Broadleaf		Pure Broadleaf	
	Pure BL	Leading BL	Total	Pure BL	Leading BL	Total		Target	Recruit	Target	Recruit
1	294	406	699	1,500	858	2,359	3,058	6,000	3,641	4,000	2,500
2	1,939	1,436	3,375	163	563	726	4,101	1,000	274	500	337
3	1,209	1,079	2,288	302	352	654	2,942	1,000	346	500	198
4	981	980	1,961	660	305	965	2,926	1,000	35	800	140
5	2,019	2,163	4,182	2,438	1,478	3,917	8,098	3,917	0	2,438	0
6	2,349	1,862	4,211	1,646	1,617	3,262	7,473	3,262	0	1,646	0
7	984	819	1,803	1,054	1,104	2,158	3,961	2,158	0	1,054	0
8	567	277	844	357	367	724	1,568	724	0	357	0
Total	10,342	9,022	19,364	8,119	6,645	14,764	34,128	19,061	4,297	11,295	3,175
			29%			9%	15%	12%		7%	
Vegetated mk1			65,824			163,049	228,873	163,049		163,049	

Approach

1. *Amend* identified Non-Free Growing broadleaf areas with conifer standards mixedwood or pure broadleaf management stocking standards
2. *Modify* reforestation plans to accommodate broadleaf objectives
3. *Design* harvesting and reforestation strategies to achieve broadleaf objectives – Utilize Natural Regeneration OR Planting

Spatial Review of Potential Opportunities to Recruit



New Releases

[Using Stratification to Achieve Non-Timber Objectives](#)



Mature Broadleaf Trees Non-Competitive IF Less Than...

1 view • 45 minutes ago



FPPR 46.11(2): Using Stratification to Achieve No...

106 views • 12 days ago

Next Steps - evolving

- IBWG requests local assistance and engagement
 - First Nations partnering
 - Assigning priority values
 - Developing strategies and approaches
 - Alternatives to brushing, wildlife gaps
 - Variances from standards
 - Sec 26.5 stocking standards by objectives
- Later steps
 - Trial strategies on the ground
 - Model impacts on timber supply
 - Expand strategies to TSA
 - Monitor, refine process