



Commercial Thinning



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A scenic landscape photograph of a mountain range. In the foreground, a river flows through a dense forest of tall evergreen trees. A rocky shoreline with some fallen logs is visible. In the background, a large, rugged mountain with patches of snow or light-colored rock rises against a blue sky with scattered white clouds.

Outline

- Discuss different CT projects by RCFC
- Management Objectives of each
- Prescription Development
- Operational hurdles



Keystone Creek

Objectives:

- To improve the stand through creating a better species mix and culling poor quality trees giving more resources to the higher value, residual crop trees.
- Decrease the rotation time to next harvest by putting more volume on fewer stems.
- Harvest enough volume to make commercial thinning a viable harvest method.

800-1

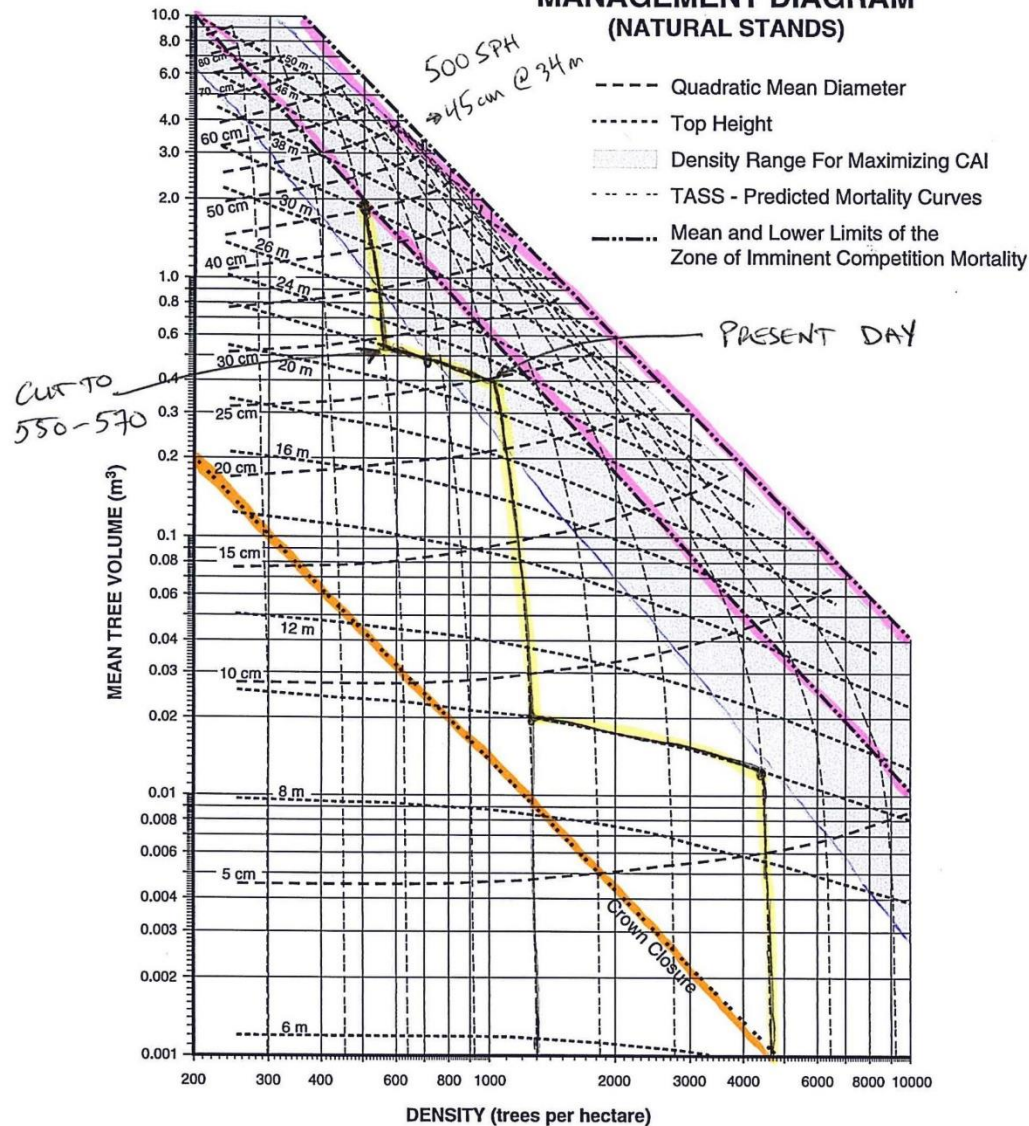
Prescription Development

- Stand suitability
 - Piece size, sph, spp.
- Trail network – need to know machine capabilities for spacing
- Stream/wetland locations
- Write Prescription – limit number of rules
- Tree marking – mark to cut or mark to leave
- Cruise to 7.5 cm DBH
- Can add reductions based on stand tables and trail area to figure out volumes



a)

WESTERN REDCEDAR STAND DENSITY MANAGEMENT DIAGRAM (NATURAL STANDS)



Prescription

- Stand juvenile spaced in 1997 @ 10m to 1300 sph
- Thin from 1000 to 550 sph
- Rules:
 1. All Pw (dying of white pine blister rust) and deciduous
 2. All damaged stems unless the resultant will leave a large gap in the canopy then leave best stem possible
 3. Thin between stems to 3-8 meters (ave 4.5m) favouring leaving: 1) Cw, 2) Sx, 3) Fd
 4. Prioritize removal 1) Hw, 2) limby stems, 3) forked trees



Produced by Craig Farnden R.P.F., May 31, 1998.
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Data Source: TASS generated managed stand yield tables contained in the computer program WINTIPSY version 1.3 (B.C. Ministry of Forests, Forest Productivity and Decision Support Section)

FIGURE 70 Stand density management diagrams for both natural (a) and planted (b, next page) stands of redcedar (from Farnden 1996).

Harvest

- Tigercat LH 845C
- Komatsu 895 forwarder
- Volvo 290C excavator for loading/trail construction



Sorts:
Sawlogs: Cw, Hw, Pw, Sx, Fd
Pulp & Biomass



Post Harvest – Operational Issues



- Hired from Clearwater
- Well trained operators
- Build trust with harvest crew
- Production vs quality of harvest

Stand conversion:

Hw 46% to 38%

Cw 45% to 56%

Economics:

Cw almost triple the value of Hw

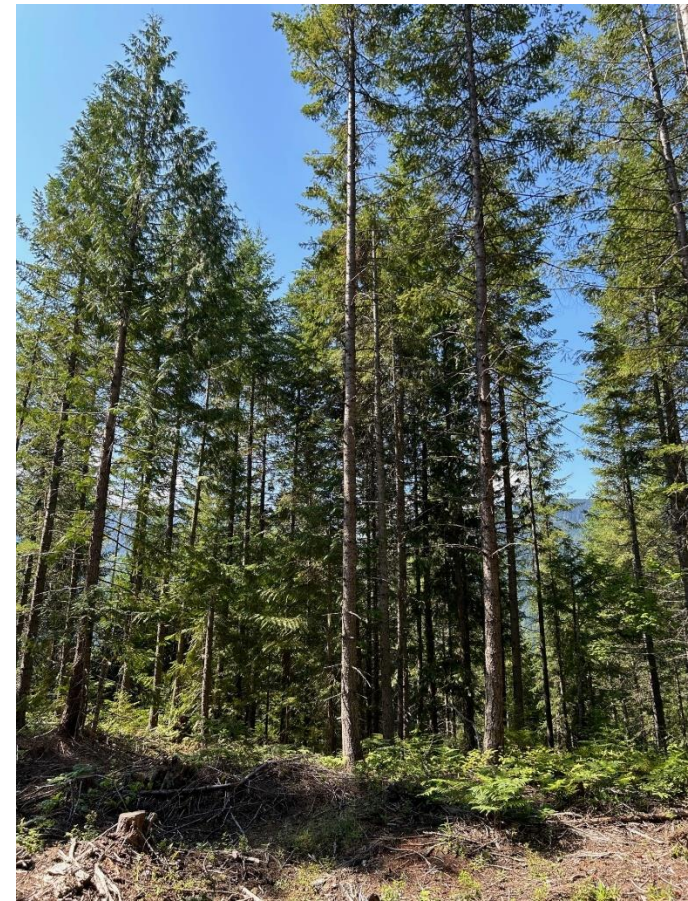


Goldstream – Sx & Fd Blocks



Learnings:

- Big equipment works but need a good operator
- Marking not required unless there is defect higher on trees
- Trail placement on simple ground not needed
- Map Stream and any other constraints
- Some soil disturbance is good.



A black and white photograph of a dog, possibly a Border Collie, sitting in a snowy forest. The dog is positioned in the lower-left foreground, looking towards the camera. The forest is composed of tall, thin evergreen trees, and the ground is covered in a thick layer of snow. Sunlight filters through the trees, creating a dappled light effect on the snow. The overall scene is serene and quiet.

Nissan Road – Mix Spp.

- Planted to Fd in 1978
- 1400 sph Fd, Cw, Hw, Pw, Ep (Sx, Act, At)
- Stand in self thinning stage
- Wanted smaller equipment
- Thin to 650 to allow a second thin before final harvest.
- Objectives:
 - Recover volume loss before final harvest (Fd & Pw)
 - Decrease rotation time
 - Improve cedar growth (value)



Komatsu 138 zero swing (<8ft wide) with Nisula 555H harvester head
Komatsu 855 Forwarder (9ft wide)

- Training new operators – give them a paint can
- Hiring new operators to train is beneficial
- No need to mark trees, just lots of supervision to start
- Layout main trails only in tougher ground
- In Revelstoke, an 8-wheeled harvester is the machine to use



Considerations:

- Look at Height/Diameter ratios
- Consider leaving some non-treated areas for wildlife, wildlife trees, snow infiltration, riparian, visual screen, etc.
- Start with an easy block if you can (few species & mellow ground)
- Painting trees helps figure out your prescription
- Keep <5 rules for your harvester operator
- Watch for forest health issues
- Think about your final product you're trying to produce.



Potential Objectives:

- Accelerate stand development
- Value harvest – grow volume on higher value species
- Fill voids in timber supply
- Wildlife habitat restoration
- Wildfire reduction
- Recover natural volume losses
- Increase diversity especially in monocultures
- Cover crop for regeneration
- Create multi-aged continual cover forests

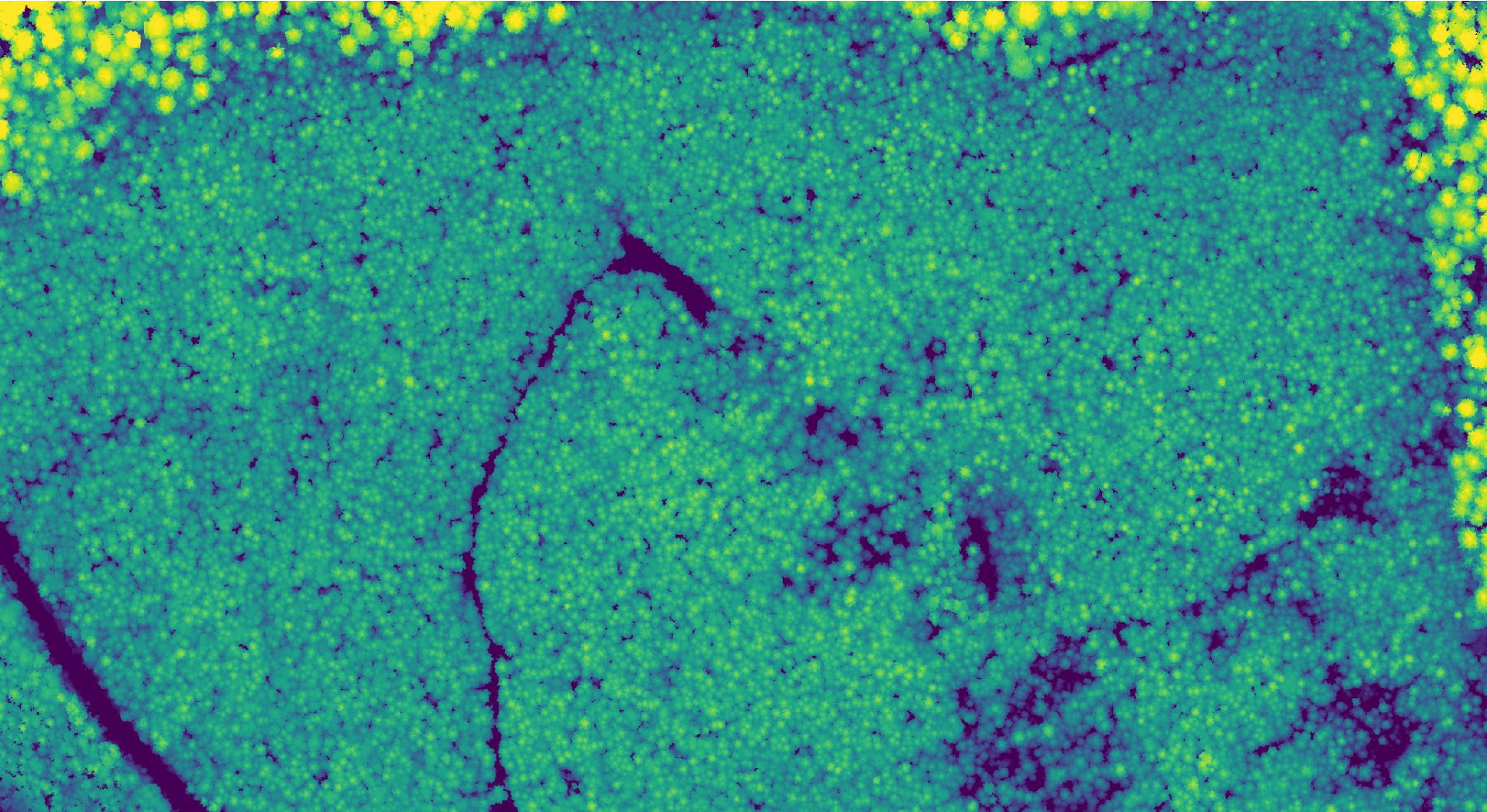
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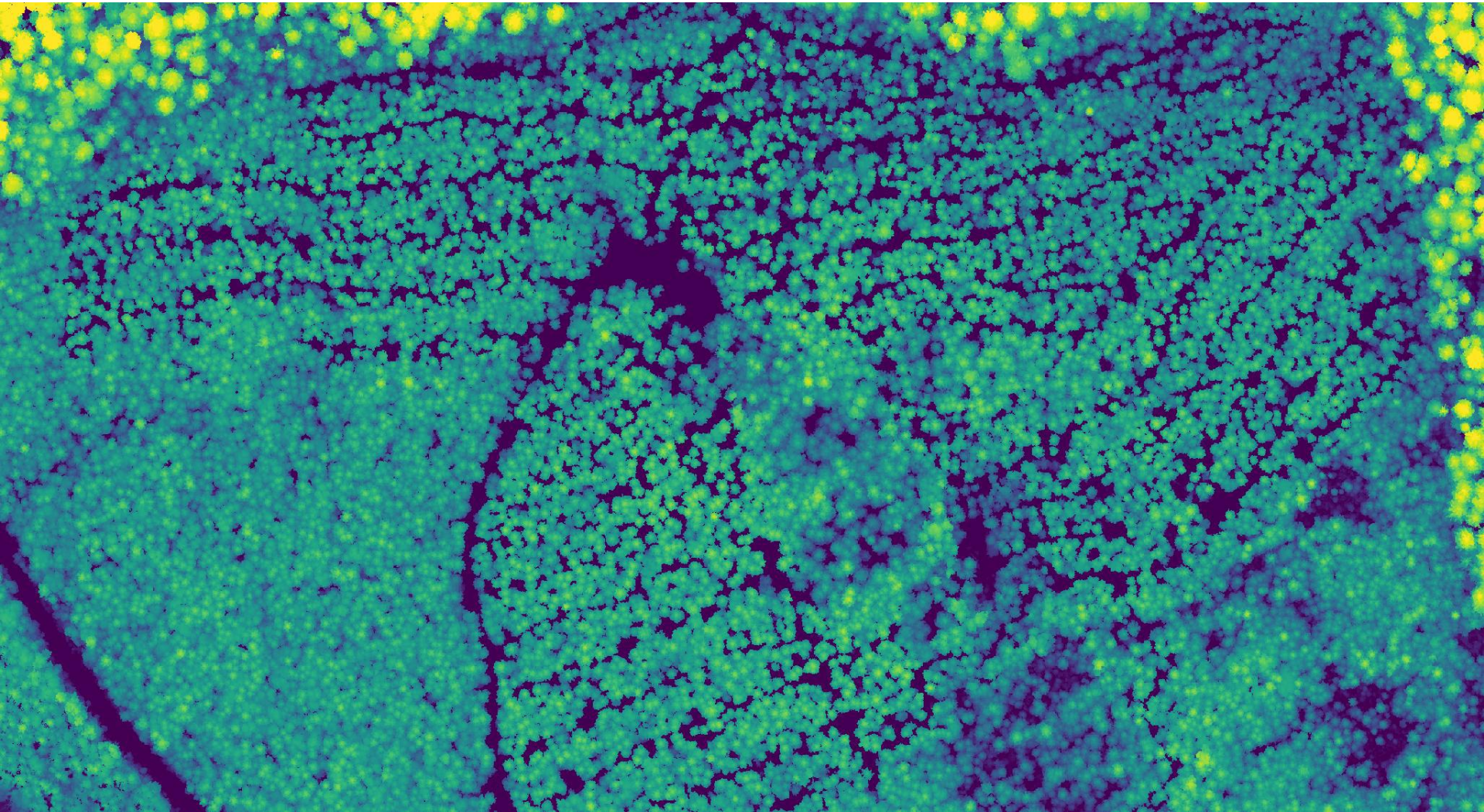
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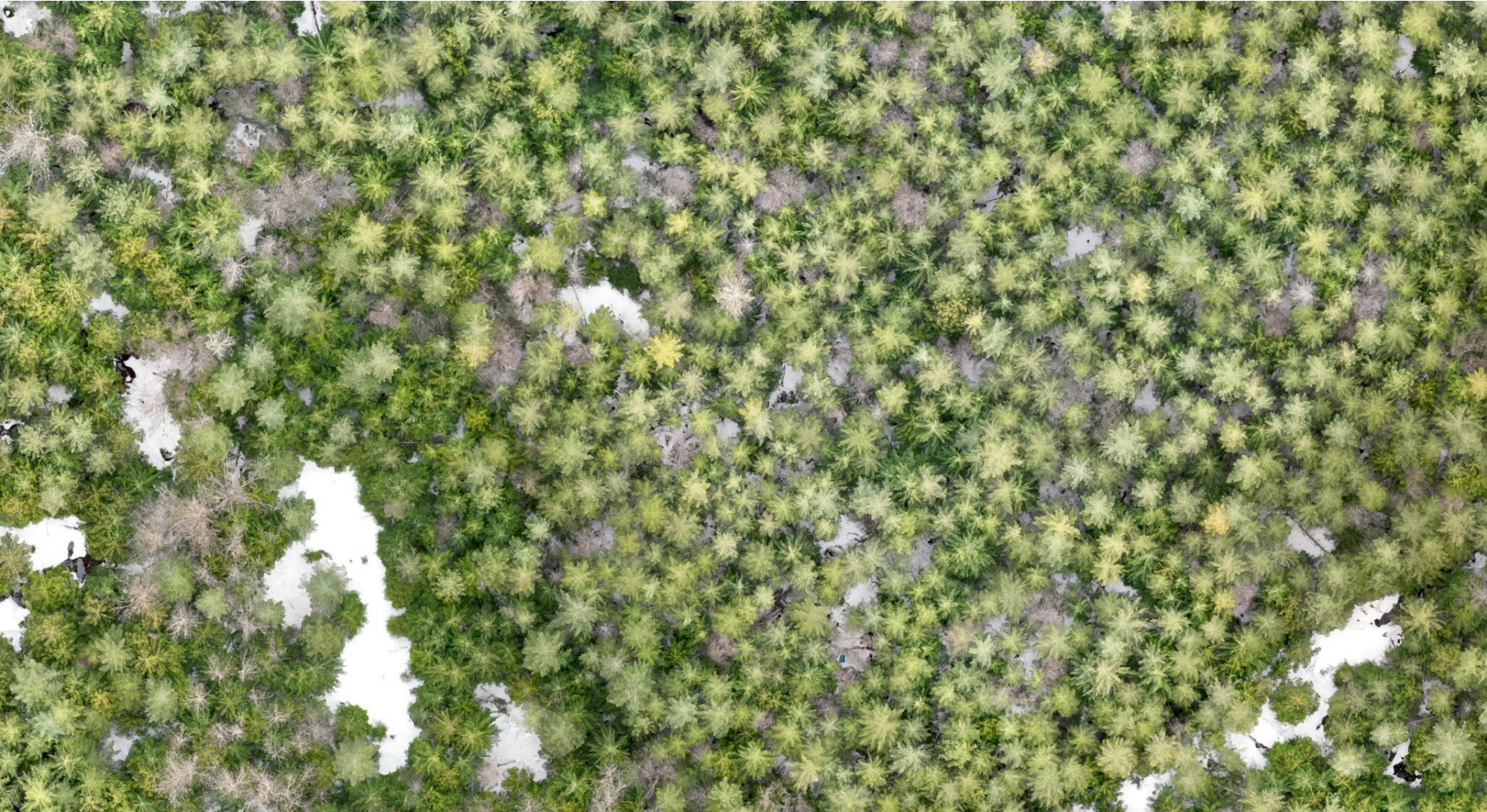
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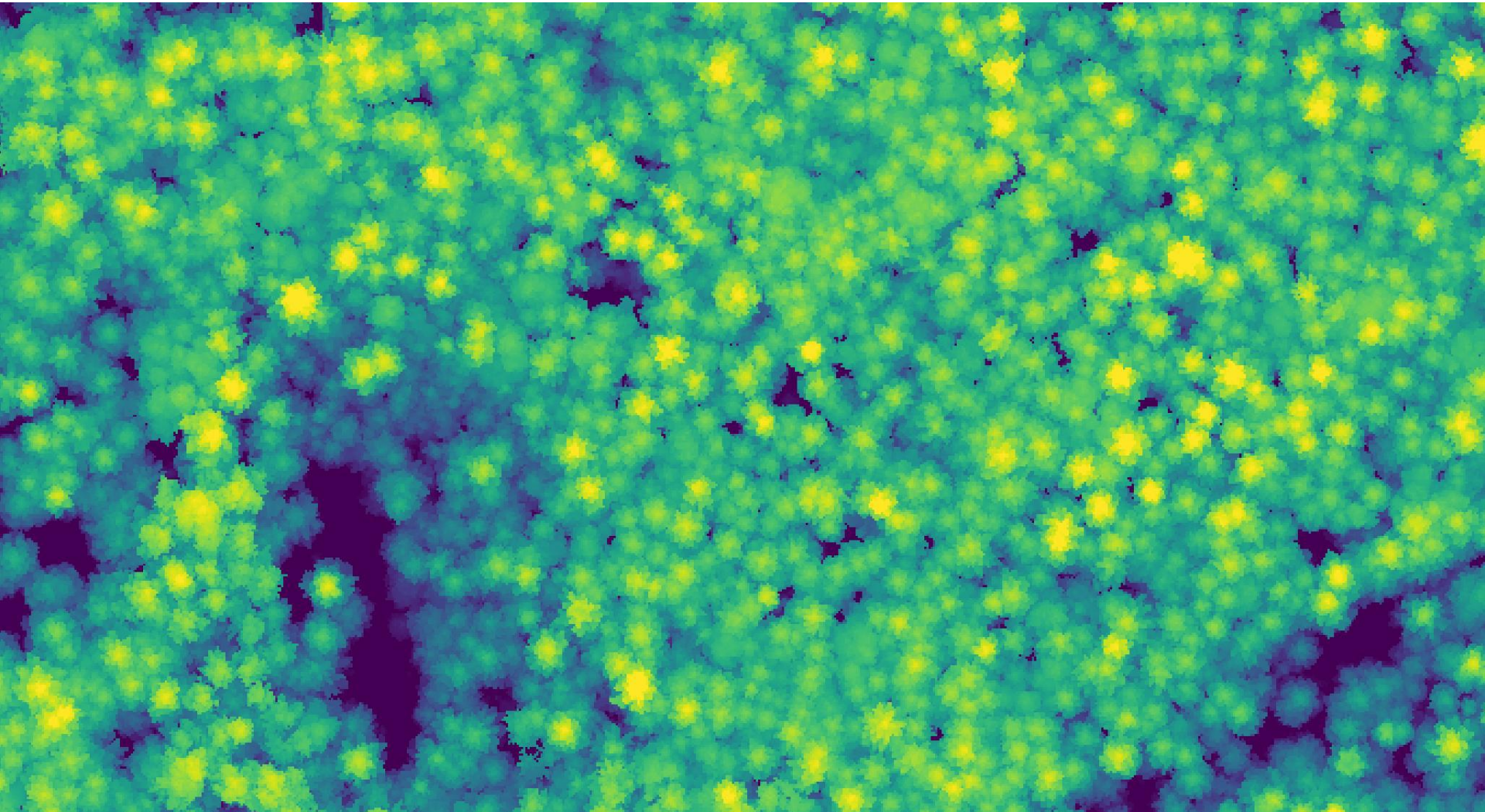
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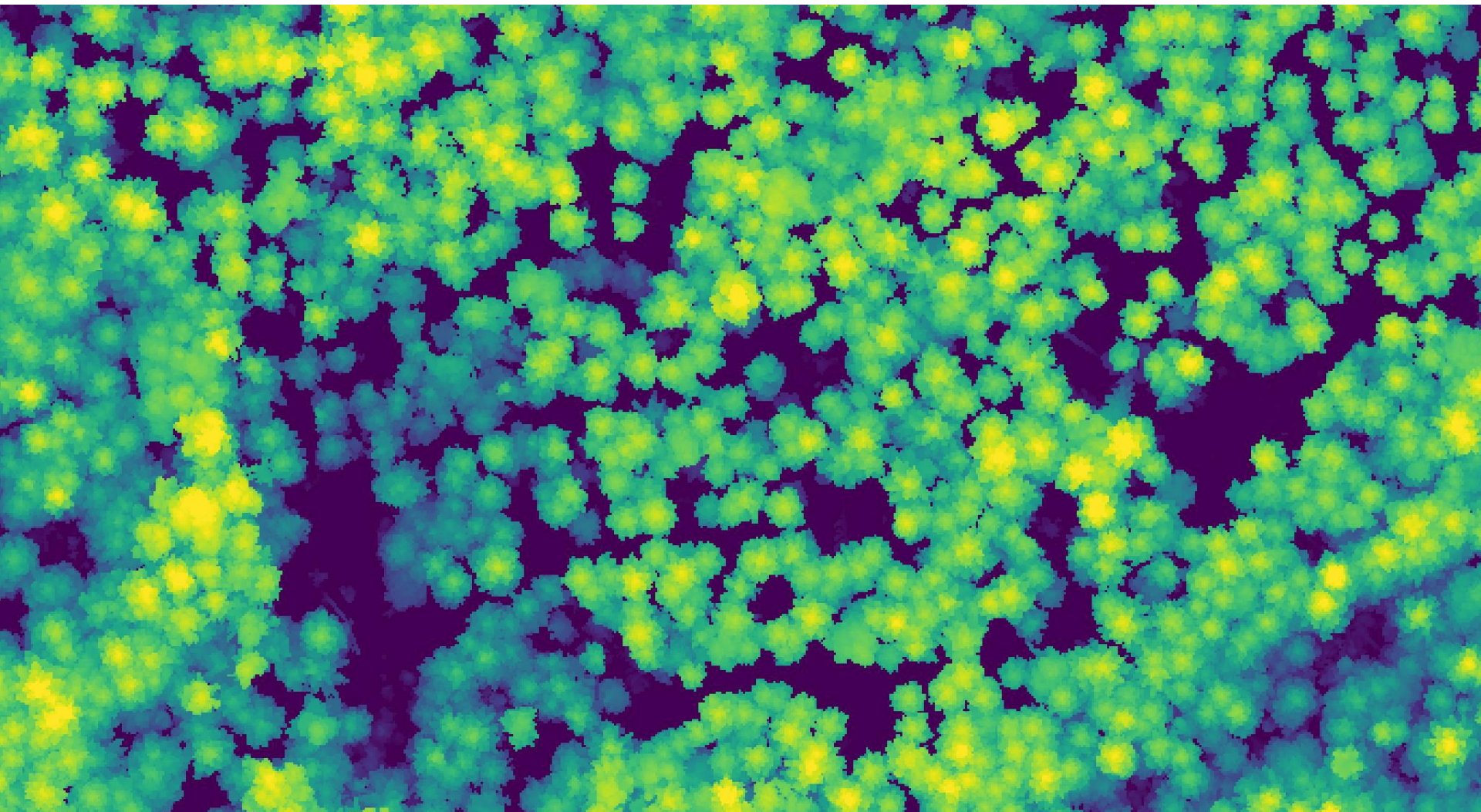
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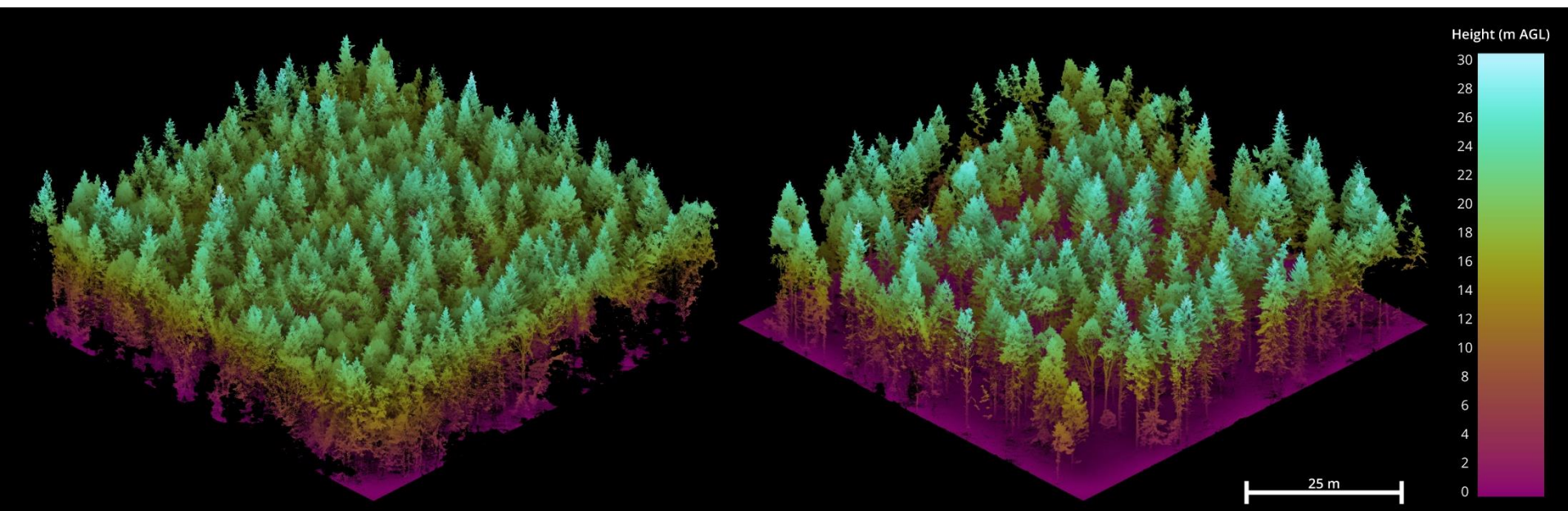
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Benefits of commercial and precommercial thinning



Benefits of commercial and precommercial thinning



Commercial thinning and Juvenile Spacing





Photo: David Moskowitz

Not thinned



Photo: David Moskowitz

Old thinning from 1980's



Thank you,