

Patchworks Spatialized Timber Model: A Forest Landscape Planning Tool for Better Options' Development

Tom Moore, a key developer behind the Patchworks spatialized timber-supply model, hosted a [TEAMS video](#) demonstration December 10, 2024. This was a non-technical presentation, to show what it can bring to a project, particularly for partial-cut, structure retention. It was not intended to answer technical questions.

Background:

Frank Doyle RPBio (raptor biologist) and Mike Buirs RPF (retired forest planner) were exposed to Patchworks in 2019, via a demo by Tom Moore, while working with Regional Ecosystem Specialist Anne Hetherington. The primary focus was to collaboratively develop timber and goshawk habitat management options to prevent the extirpation of the Northern Goshawk. Goshawk is an umbrella species for healthy biodiversity, particularly for old-growth forest species. This original demonstration resulted in a 2020 pilot project in Morice Timber Supply Area (TSA), working collaboratively with a timber supply analyst and Canfor's shadow timber-supply analysis.

The two key queries for the 33 mapped Goshawk Territories (Stewardship Areas of ~6,000 ha each), with the objective of maintaining 50% old-growth structure at all times, were:

- 1) What would the timber impact be for all 33? Answer: ~6%
- 2) How many of these 33 special Stewardship Areas could be maintained at **zero impact**? Answer: 30.

We delivered our Patchwork results to the Regional Executive Director in 2021. Canfor had covered the costs to run Patchworks, while Frank and Mike had complete control of the Goshawk inputs and outcomes. Since then, a minimum, viable goshawk population has been estimated at 200 pairs (**Steventon**) and a standard, timber economic feasibility assessment has been done. The current process to work with now is the [Morice-Bulkley Forest Landscape Planning \(FLP\)](#) process.

The Silviculture Innovation Program [SIP]

The SIP funding proposal that Frank, Patrick Ferguson and Mike submitted to the Bulkley Valley Research Centre (BVRC) include Patchworks as the spatial timber supply model. This is an independent project and does not include government or industry funding or involvement.

The project will develop a number of scenarios in the Bulkley TSA that can apply innovative silvicultural practices to a range of selected Goshawk territories [aka Stewardship Areas] and model scenarios to keep the Annual Allowable Cut [AAC] from being impacted significantly. The SIP proposal does not include clearcutting in Stewardship Areas. Clearcut with reserves will be outside Stewardship Areas.

[Research](#) shows that the few remaining large, relatively unfragmented, primary forest areas (i.e. the remaining Goshawk Territories, which include deferred old-growth areas) need to be managed differently. We will explore how much timber can be safely harvested over how long a period, while still retaining other values (Valued Ecosystem Components).

Spatial modelling and structure-retention can help plan current and future forests that will have old-growth needed for marten, wrens, creepers, lichens and other cultural plants. It will have better fish and wildlife habitat, better water quality and quantity and reduce flood risk within Stewardship Areas.

The value to FN and public is wider understanding and support of options. The value to Decision Makers is more options for timber-supply determinations and Forest Landscape Planning, and the consequences of those choices. It can help the Annual Allowable Cut process [not the determination] by making it more transparent and understandable. It can help support innovation in harvest treatments and options benefiting local economies and keeping local jobs.

Summary:

The proposed Patchworks modelling project is intended to showcase an innovative, proactive and spatial approach to land-base planning. It intends to show how the retention of non timber values can be maintained and monitored through timed, partial-harvest within Stewardship Areas, while stabilizing the fibre supply over time. The remaining land-base would have a more traditional, timber-focus.

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